The Builder.

No. CLXXXII.

SATURDAY, AUGUST 1, 1846.

THE frightful differences continually found in builders' estimates, for the same work, have been often brought before our readers, with a view to induce the exercise of greater care, and the application of sounder knowledge, in the preparation of them. We have been blamed in some few quarters, for the publication of these startling discrepancies, but are satisfied that the course is judicious, and must ultimately have a salutary effect, though probably it will be some time first.

We opened tenders this morning, submitted by four respectable tradesmen, for painting a residence. The highest was 320*l.*, the lowest 190*l.*! Not long ago a public advertisement for tenders to erect an Infant School brought us nine; the highest of which was 800*l.*, while the lowest was under 300*l.*

At this moment we have before us ten lists of tenders, forwarded within the last week, all for small matters, and in none of these is the lowest more than half the highest, while in several it is even less.

Look, for example, at the following tenders for certain alterations at the London Mechanics' Institution:—

Langwith	£385 0
Killar	275 10
Higgs	249 17
Saunders	230 0
Parry and Son	208 12
Furnival	206 0
Hawken	193 0
Mason	182 0

Or these, for the erection of a new entrance to the Jews' Burial-ground, in North-street, Whitechapel:—

Evans	£214
Fawcett	144
Kirk	133
Goddard	132
Hickman	109

Or others, four in number, for painting two houses at Tulse Hill, whereof the highest was 225*l.*, the lowest, 108*l.*; and in this case, moreover, *the quantities were supplied* to the parties.

We are not now speaking of large contracts, only occasionally made, wherein differences to the extent of thousands are sometimes found, as shewn in our pages,—but of small matters, of every day occurrence, wherein it would seem to be scarcely possible to make a mistake.

How do the differences arise? They cannot be from the superior facilities possessed by one builder over another—superior skill and greater command of capital—the discrepance is too great to be thus accounted for; but in five cases out of six must be ascribed to ignorance or knavery.

The results are disastrous to all, not excluding the employer, who has bad work instead of good (to say nothing of an occasional law suit); and the architect, who is perpetually at war with the builder, and for six times the due share of trouble and anxiety, is expected to charge his commission on the inadequate amount paid to the contractor.

We would urge builders who are invited to tender, to make no estimates hastily, or on imperfect information; and those who have not had practice in such matters, to obtain proper assistance, or decline entering into it. Excepting under very peculiar circumstances, it is better to do nothing than to toil and throw away money. We are not advocating an extortionate rate of profit, but we maintain that a man should be paid fairly for what he does; and that when he is not, an injustice is committed which extends widely; and that when he himself undertakes to execute work on other terms, he acts dishonestly, as he must either rob his employer, his merchants, or his own family. As regards the ability of our workmen, and the goodness of English workmanship, the system has operated most injuriously, we might almost say fatally.

There is after all, great hope that the sacrifice of the triumphal arch at Hyde-park corner, and the colossal statue of Wellington, may be prevented. Sir Robert Inglis having moved for and obtained copies of the correspondence on this matter, Mr. C. Berkeley proposed on the 24th ult., "that an humble address be presented to her Majesty, praying her Majesty to withdraw her consent to the placing of the statue of the Duke of Wellington upon the archway at the top of Constitution-hill," and laid before the House such clear evidence of the universal feeling which prevails against the proposition, that not a *single* member could be found to back Sir Frederick Trench in his defence of the measure. A letter from Mr. Decimus Burton, the architect of the arch, dated a year ago, says precisely what we said at that same time, had said previously, and have since urged again and again:—

"The Wellington Testimonial is a single equestrian statue of colossal dimensions, viz., about 30 feet high; its weight, exclusive of the plinth, about 40 tons. It would not be a satisfactory surmount for the arch; colossal as it is, the horse, when placed on so huge a pedestal, would present an appearance far too meagre and tall for the situation. Proportion and unity of design are the first and most important elements in a work of art; both of these would be wanting in this instance if such a statue were placed upon the arch. The fact that the monument was not the design of one and the same artist would strike the most casual observer."

Again;—"I am convinced that, in an artistical point of view, it would be inappropriate to place a colossal equestrian statue on a building which is small as a triumphal arch, but huge as a pedestal; and that the result cannot be satisfactory to the sculptor nor to the architect, because both their works must suffer. The relative proportions of the building, and the statue proposed as its surmount, are entirely inharmonious. The statue is about 27 feet high, 22 feet long, and 8 feet wide at the centre;* but it will present no mass below the horse's belly; on the contrary, there will be a large void. The building proposed as its pedestal is 67 feet high, 62 feet long, and 50 feet wide at the centre—dimensions constituting a mass far too heavy to combine, satisfactorily, with a surmount composed of a single equestrian statue." * * "The arch would, I consider, suffer greatly in importance if the colossal statue in question be placed there, because it would become a mere pedestal. The want of proportion in the proposed surmount, compared with the columns and other details of the architecture, would shew that they had been designed by different hands and without reference to each other. Much as I have desired to witness the completion of this building, with surmount statues over the columns, and bas-reliefs on the walls, as originally designed by me, and as approved of by the Lords of the Treasury, yet I would prefer that the building should remain for the present in its forlorn and bare state, rather than a colossal equestrian statue should be placed upon it; and the more so, because I fear that if this appropriation of the building should be decided upon, a proposition would soon be made for removing altogether the façades of columns, the slender proportions of which would appear so incongruous and out of proportion compared with the prodigious dimensions of the statue."

* If we mistake not, the statue is now larger still.

Lord Morpeth said, he partook to the full in the misgivings which had been expressed by other hon. gentlemen, and by his two noble predecessors in the office which he had the honour to fill, and which, he believed he might add, had been backed by very many and competent professional authorities; and, although they found that the consent and authority of the preceding Government had been signified to the persons who wished to erect this statue, to place it in the situation proposed, and that some progress had been made in the actual work, and some expense already incurred, yet he confessed that, even at that moment, he did wish very much that those who represented the subscribers could persuade themselves to accede to the offer made to them by the Government, to procure another site, and, if they did, he would assure them that *no pecuniary difficulty should stand in the way.*

Sir Frederick Trench laboured to make out a case, but failed entirely: he ventured to say, "It would be an act of great disrespect to the Crown, if her Majesty, after having given her solemn pledge in favour of a particular plan, should be called upon, after the committee had spent a considerable sum of money, to throw all their proceedings over *because certain gentlemen of the House of Commons* chose to condemn it"—as if the only objectors were in the house.

Sir Robert Inglis was obliged to tell the gallant member, "that he believed that, if the opinion of the House were taken *seriatim*, it would be found to be almost unanimously against placing the statue upon the arch. It would be one of the greatest monstrosities in the metropolis." And ultimately, Sir Frederick begged time to communicate the wishes of Government and the House to his colleagues, and obtained it, with the understanding that the works would be entirely stopped, until the committee had signified their assent to the suggestions of the Government, or failing that, until the opinion of the House had been taken upon it.

We have much confidence in Lord Morpeth, and hope soon to communicate the removal of the scaffolding.

DECORATIONS OF BUILDINGS IN FRANCE.

In our foreign article last week, mention was made of the additions to the lunatic asylum at Charenton, now nearly completed. The manner in which the works are done there contrasts singularly with the course followed in England. The object appears to have been, to provide the best accommodation, and to obtain the best effect quite regardless of expense. In the chapel, for example, which takes the shape of a Doric prostyle temple, the decorations are superb, including a profusion of frescos and gildings.

* Lord Canning, just previously to his removal from office as Chief of the Woods and Forests, wrote to the Duke of Rutland, as chairman of the committee, stating, "that the remonstrances which reach her Majesty's Government against the proposed appropriation of the arch are so many and so strong, the representations of its architect, Mr. Burton, in the same sense, are so earnest, and the opinion of every other eminent architect, artist, or other competent authority who has been consulted on the subject, is so decided, that her Majesty's Government feel called upon not only to make a final effort to induce the subscribers to re-consider the project of placing the statue on the site at present proposed, but to do all that lies in their power to facilitate a change in the design."

PAPERS READ BEFORE THE ARCHÆOLOGICAL INSTITUTE, IN YORK.

STONE FOR BUILDING PURPOSES.

The Dean of Westminster in the course of an address at the general meeting, remarked on the value of the Archæological Associations in amending largely the future architectural productions of this country, by calling the attention of those who were engaged in the restoration of old churches, and in the construction of new ones, which happily were rising through the length and breadth of the land. The point on which he would briefly touch would be to call attention to two matters connected with architecture—the possession of right taste in the construction of those buildings which were rising, and about to rise, and the possession of right information as to the selection of the most adequate and enduring materials of which those buildings might be constructed. Who was there among them whose lot it had ever been to pass by those once beautiful churches of which they now saw little more than ruins in the town of Coventry? Who was there that did not deplore that those models of ancient taste had been constructed of materials so perishable as the red sandstone in the neighbourhood in which the churches stood? Who was there that had not felt equal regret on seeing what remained of the once beautiful Cathedral of Chester? He would rather turn to those contrary results which had happily arisen, on a most extensive scale, in the case of many of the most beautiful buildings of this country, and point to the firm endurance of that stone which had been used in the construction of the beautiful abbeys of Byland and Rievaulx—a stone which it would have been happy for mankind had it been used also in the construction of the abbey at Whitby—an abbey which had fallen and was still falling into ruin, because it had not been constructed of stone equally imperishable with that of Byland and Rievaulx, but, on the contrary, of perishable sandstone. These were sufficient examples to shew the value of the point to which he hoped, through the medium of the Institute, to call practical attention to all these advantages. Need he, in the city of York, allude to the fact that within the time during which it had been his privilege to be acquainted with this great society, there had been an enormous expenditure of money (thanks to the liberality of the Dean and Chapter of York Cathedral)—in constructing many of the most beautiful portions of the exterior of that magnificent structure with stone which would not have perished had it been the same as that used in the tower? Need he remind many of those then present that the architecture of all countries depended upon the stone being adapted for architectural purposes? Need he remind the noble Marquis of Northampton that the cause of the beauty—the ecclesiastical beauty—of the county of Lincoln, was the fact that one of the best building stones of England was found in the neighbourhood of Stamford? Need he remind those who had been in Normandy of the extreme amount of architectural preservation which had been going on from the time of William the Conqueror up to our own time? There the stroke of every man's chisel was preserved almost indelibly. The reason is the nature of the stone which is so abundantly found in the neighbourhood of Caen, which had been used in many buildings, and which, he rejoiced to say, might now be purchased in London at 1s. 6d. per foot. The noble chairman had alluded to the pecuniary considerations which it was the duty of all societies not to disregard, and which it was especially the duty of an architect to consider well. He rejoiced to announce the fact, upon the authority of Mr. George Stephenson, that with the facilities which railways now afforded to transport the best materials from one extremity of the kingdom to the other, there could now be delivered in London, at a cost of 1s. per foot, that most beautiful stone which is to be found in quarries about five or six miles on the south of Chatsworth, close to the railroad, the price nearly up to the present time having been 2s. per foot. They were aware of the investigation that had been conducted by one who was an oracle in geology, Mr. Wm. Smith, the father of English geology, and the uncle of Professor Phillips, of this city. Many would be aware of that valuable report on stones adapted to the purposes of architecture, which had been printed by the authority of the two Houses of Parliament. It was a most valuable document, and ought to be in the hands of every professor of architecture, and of every builder who is occupied in the preparation of public works. In further illustration of the point to which he had referred, he alluded to the beauty and durability of the Pentelic marble used in the construction of the temple of Peostum, in Italy, the Parthenon at Rome, and the ancient temples of Greece, and concluded by moving the resolution.

HISTORY OF YORK MINSTER.

Professor Willis gave a popular account of the Cathedral at York, sketching its history, and explaining from plans which he had prepared, its various proportions. He stated that the best authority, as a history of the cathedral, was the elaborate work of Mr. Brown, of this city, artist. In it was to be found much information not possessed in any other book, but the fruits of researches among the various documents belonging to the Chapter. The early history of the cathedral carried us back to the conversion of the Saxons to Christianity. In 627, Edwin, the Saxon monarch, with his whole court, were baptized in the city of York, by Paulinus, when a wooden church was erected for the purpose, and afterwards a square stone fabric was raised. This was the first cathedral of York. In 669, this fabric was repaired by Wilfred; but in 741 it was greatly damaged by fire. Archbishop Egbert began the erection of a new church soon afterwards, but that fabric was burnt during the Danish wars. Archbishop Thomas, the first Norman prelate, rebuilt the edifice on a noble scale, on taking possession of the see. The Normans were much more skilful masons, and had more extended ideas than the Saxons, and wherever a Norman bishop came they destroyed the Saxon cathedrals to build one more adapted to their own views. He proceeded to shew that the Saxon artisans were inferior to the Norman in their method and style of building. When Thomas came to the see of York, he found that the city and neighbourhood were ravaged by fire and sword—that the country was in a state of desolation—that the metropolis had been fired—its church partially destroyed—and the cultivation of the soil abandoned. As to the church, he roofed and restored it as well as he could; but after some years, when he found that the country was restored to peace and quietude, he set about erecting a new cathedral. Thomas took possession of the see in 1067. In the year 1154, Archbishop Roger occupied the see, and he set about the construction of a new choir. The ground plan of this edifice Professor Willis explained, and stated its proportions. Archbishop Thomas's church consisted of a nave, of less breadth than the present fabric. It had a transept but no aisles. It had an ache, if not two, also a choir, which had no aisles. Roger took down the east end of this Cathedral, and instead thereof erected a new choir. Professor Willis pointed out that in Roger's time the masons had attained a much higher proficiency than in the time of the former builders of the cathedral, and referred his hearers to several specimens in the crypt. He then proceeded to observe that the Minster was destined to undergo another change. It was found that the fabric was too small, and therefore Archbishop Gray set about the building of new transepts. He commenced with the south transept, which yet remains, forming part of the present fabric, and is in the early English style of architecture. The tomb of this archbishop is within that portion of the building erected by himself. John Le Romaine was Archbishop of York in 1285, and his father was treasurer, and erected the north transept. These transepts are erected in the early English style, and they are very valuable *dated* examples, and therefore of the utmost importance to archæologists. The next thing done was to attack the nave, of Norman architecture, built by Archbishop Thomas. In 1291 the nave was begun to be erected, in its present shape. It is in what is called the decorated style, and is another valuable *dated* specimen. This work was begun in the time of Bishop Romanus; and they were told that Bishop De Melton spent 8,000*l.* in completing it. The present nave is considerably larger than the former one, and Professor Willis gave an interesting description of the probable manner in which the transepts were made to adapt to the new building,—which displayed considerable skill in the engineering of architecture. Having traced the rebuilding of the nave, he observed that the choir still remained as built by Roger, when in 1361 Archbishop Thoresby and the chapter agreed that a new choir should be erected. This was done at twice, as the character of the building indicated.

Mr. Brown, of York, then addressed the section at considerable length. He observed, that in his opinion the Saxon cathedral had been much more elegant than Professor Willis supposed; he also differed with him as to the existence of aches. He read copiously from his history of York Minster, and explained the grounds on which he fixed the dates of the several sections of the fabric. He remarked, that the general opinion formerly was that the choir was erected at one time; it now appeared that it had been built at twice, and that they had two fabrics in one. The western portion of the choir was not completed till 1440, although it was generally supposed to have been finished by Thoresby in 1370. Again, the tower was attributed to Walter Skirlaw. Such was not the case. Instead of being built in 1370, it was not finished till 1472. The screen, it was said, was brought from St. Mary's Abbey. No such thing. It was made by William Hindley, his principal carver being a man named Fothergill. It was completed in 1515. The works at the Minster were not pushed with rapidity. Many years passed over with only seven masons engaged in the works. When the screen was finished, the same masons proceeded to build Belfrey Church. He observed, that great care had been always taken to keep the fabric account in a wholesome state; he had referred to the ancient settlements, and found that something was always kept in hand. The church owed much to the great liberality of her archbishops and clergy, who had been most zealous in all ages for the maintenance of the fabric. The building of the great tower was begun in 1292, and was completed by Thoresby. He gave the finishing stroke to the nave, and then came the decree that the choir was too insignificant. On the 29th of July, 1361, the building of a new choir was determined on, and in a few days after, on the 1st of August, the first stone was laid. The erection of the S.W. bell-tower was begun in 1445, John de Birmingham being treasurer at that time. This tower was finished in 1455, when the bells were removed into it, from the great tower, where they were formerly hung. The N.W. tower was completed in 1472.

Professor Willis briefly defended the opinions to which Mr. Brown had taken exception.

EARLY HISTORY OF SCULPTURE.

The following is an abstract of a communication by Mr. Westmacott, which was read by Mr. C. Newton, one of the hon. secs. The author, in the commencement of the paper observed, it had appeared to him in his examination of what was termed mediæval sculpture, to be worthy of remark that, while Christian ecclesiastical architecture made regular progress from the earliest character to its consummation in the so-called perpendicular style, sculpture did not advance *pari passu*; but, though as full of promise as the art whose handmaid she was bound at first to be, this art almost suddenly ceased to take its place in the course of improvement. If his view were correct, it might not be uninteresting, nor altogether unprofitable, to endeavour to discover the causes why an art so peculiarly capable of development as sculpture, should thus have stopped short in its natural progress, and relinquished the high mission to which it might truly be said to have been called. An acquaintance with Greek sculpture mounted up to that indefinite period called by scholars and antiquarians the "archaic" ages. The first signs of improvement in sculpture, introduced by oral artistical taste and feeling, and perfected by technical knowledge, dated at from 600 to 500 B.C. After the failure of the Persian invasion of Greece under Xerxes, when enormous wealth fell, as spoil, into the hands of the Greeks, a new era in art arose in that favoured land. It was determined to restore with unprecedented splen-

dour the temples which had been destroyed by the Persians, and the riches they had left behind them placed the most ample means at the disposal of the rulers of Athens. Sculpture was influenced by the new impulse which architecture then received. In the centuries before Agelodas, Myron, and Phidias, sculpture attempted little beyond representing, in the simplest way, sacred personages, or subjects illustrative of natural history. But a new light now burst upon the artists' world. Beauty in its sublimest and most seductive forms came to be considered a property of art, and essential to it: and the stimulus afforded by the political events alluded to was attended by a new feature in the practice of sculpture. It was to be borne in mind that much of the sculpture required was for the decoration of the temples; and whilst so employed it maintained its peculiar character of excellence. That this was the most zealously guarded, even after the great improvements in form effected by Phidias and others, appeared in the history of Phidias himself. Every subsequent deviation from the strictness with which the art was to be practised, as an accessory to religion, seemed to have led to its loss of high character; and perhaps it was not going too far to say that the decline of the grand style in sculpture might have been owing, in a measure, to the appeal made to the senses by Praxiteles and his followers. The introduction of sculpture in the earlier ages of Christianity was owing almost, if not entirely, to the same causes as its birth in the ancient world. At first it was used as a kind of record or representation of events and personages connected with sacred history. In the next stage, mediæval art began to interest the more as it advanced towards beauty. The development of beautiful forms with the Greeks was in the spirit of the age and their religion; but it was in the manner of carrying it out that was seen the distinction between the character and habits of the two periods and different races. After noticing the characteristics of these periods, the author stated that the chief cause of the failure of ecclesiastical and modern sculpture was attributable to the very circumstances that might have assisted in advancing modern art, viz., the taste, among the superior classes of Italy, for everything connected with Grecian associations. The canon of excellence in art was some uncovered statue of antiquity; and, if perchance any sacred subject was illustrated, it was required to be done according to some approved remnant of heathen imagery. Thus was the art that was advancing, and would have advanced, thrust recklessly aside. It no longer was identified with the age, with the people nor with their religion. The charm which had given it life, and which alone could give life to art, was dispelled just at the moment when there appeared every probability that a great and grand step of original (Christian) sculpture would be developed and matured. The genius of Michael Angelo himself was trammelled and enchained by this unfortunate mixture of the ancient and modern; and the artist of the most mighty ability of any age had left works stamped indeed with the seal of the powers of invention, imagination, and technical knowledge, but too often disfigured by mannerism, the result of this attempted combination. From that time no school of fine sculpture had been seen; occasionally successful, nay, most admirable imitations of the statues of the ancients had appeared; but no enduring system had been, or could be, founded upon such false premises as attempting to produce Greek results without Greek associations.

CLIFFORD'S TOWER, YORK.

The Rev. C. H. Hartshorne read a paper on Clifford's Tower. This ancient military building (which is now surrounded by the walls of York Castle) is built of magnesian limestone, the masonry being rather larger than the Norman ashlar. In form it is perfectly in geometrical proportion, and its width each way is about fifty feet. The mound on which it stands is anterior to William the Conqueror, and the date of the tower he believed to be about 1220. The entrance is of later erection; and the arms which surround the door and the jambs of the doorway are still more recent. The name of Clifford was not in connection with the town till the time of Charles II. Mr. Hartshorne described it as a valuable example of a military building.

STOW CHURCH, LINCOLNSHIRE.

A short description of this church was read by Sir Charles Anderson, Bart. The nave is of early Norman character, and the tower arches of the same style remain, with the perpendicular arches of the present tower interstiched within them; a part of the transepts belongs to a still earlier structure, which has evidently been destroyed by fire. Sir Charles Anderson considered the tower arches to be those of the tower built to receive the bells reported to have been given by Archbishop Putta in 1023, and the transepts to the church burnt by the Danes a few years previous to that time. It is recorded that Remigius, Bishop of Lincoln, rebuilt the church, but Sir Charles considers this only a partial work, and that parts of the older structures still remain.

The Marquis of Northampton remarked that he had never heard better evidence that a part of the church is Saxon; and the Institute was much indebted to Sir Chas. Anderson for adding another good example to the test, perhaps the best, sustained by historical evidence combined with architectural character, of any that had been brought forward.

Professor Willis observed that he was most anxious to do away with the impression, that because in our cathedrals and larger collegiate churches the Norman builders had destroyed every vestige of the Saxon work where they rebuilt the churches, therefore no Saxon buildings exist. On the contrary, he considered it extremely probable, and almost certain, that in our remote country parishes where no funds were forthcoming for building new churches, considerable parts of the original ones still exist. He pointed out the characteristic marks, such as long and short work, and other features by which such buildings may be distinguished.

THE WINDOW IN ST. JAMES'S CHURCH.

Sir,—As you published in your last number a letter addressed to you from Mr. Warrington, one of the artists invited by the committee last year to send in a design for the stained and painted-glass window at St. James's Church, I, as the honorary secretary to that committee, cannot refrain from troubling you with a few remarks, with the view of removing the unfavourable impression which such assertions as are therein contained, if not refuted and contradicted, may make in the minds of yourself and the readers of your excellent journal; they tend to throw an undeserved slur on the conduct of fifty noblemen and gentlemen, utterly incapable of acting as a body in the way described by Mr. Warrington, and whose only and most anxious desire was by their liberality and gratuitous services to effect the object for which they were appointed with strict integrity, to obtain a design worthy of the church, and to select from those submitted to them the one which in their judgment they considered the most appropriate, and prove the most satisfactory to the general body of the subscribers.

If, unfortunately, individuals of the general body, by any mistaken zeal to obtain that object, induced any one of the artists to adopt for his design a subject which was ultimately rejected, no one can regret it more than myself; but I most positively affirm, on behalf of the committee as a body, that the competition was most fairly and honourably conducted.

The circular written to the artists who were invited to compete, did not set forth that the window was to be wholly pictorial, it only stipulated that it was "to be designed in keeping with the interior, which is considered one of the finest specimens of Sir Christopher Wren's abilities." The several artists, therefore, were at perfect liberty to adopt any subject or character for their design, so long as that principle was adhered to.

Five designs were sent in to the committee, and the competitors who chose to attend the meeting had the opportunity of doing so, to explain or make any statement which they might wish relative to the character or subject which they had individually adopted; their several designs were carefully investigated; their merits discussed; and it was the general opinion at a large meeting of the committee, that the mosaic style and character adopted in the design sent in by Mr. Wailes, was the most appropriate for the window.

In execution of the work, Mr. Wailes, by the request of the committee, most certainly altered the architectural details, but the pictorial subjects selected by him, and the mosaic style and character of his design are retained; therefore, as mosaics are certainly any thing but inappropriate to Italian architecture, and as architectural errors in artists' designs are often to be found, I do not think that the whole merit of a plan should be condemned or thrown aside because a committee may require its details to be corrected. And I cannot see that the committee in this instance, as Mr. Warrington has stated, decided "upon a design which they were evidently shamed out of, and induced an open violation of their own specified conditions;" or "that it was a direct breach of integrity in a *mis-called competition* in the selection of a design which could by no possibility be adopted." I must assert, in justice to the artist, that the design in all its essential parts has been carried out, and with much credit to himself.

Mr. Warrington further intimates, that the committee have made statements through the press: this I deny; whatever may have been said on the subject by way of criticism, has entirely originated with themselves.

Thus far I have considered it my duty as honorary secretary to the committee, and without consulting them on the subject, to defend them in their proceedings, which I again aver, in my opinion, were honourable and straightforward. Whether their decision has displayed "negative wisdom" or no, is another question, and in my mind a difficult one to decide. The work as executed has been much admired, and been pronounced to possess considerable merit, with which opinion I most certainly concur, although I must confess I should prefer a pictorial production of "an Angelo, a Raffaelle, or a Rubens." But, unfortunately for us, talents such as they possessed are rarely or ever met with; the soul and feeling introduced into their pictures by their hitherto inimitable touch, are too often lost in a copy—which is only a copy after all. If first-rate talent be not employed in a picture, whether it be on glass or canvas, it generally raises a feeling of regret at the labour in vain. It therefore becomes a serious matter for consideration whether, in so large a work, a copy of one of their pictures or an original of talent inferior to theirs—taking into account the disagreeable effects always produced by the junction of the glass and the lines of the iron-work necessary to support the window,—would have been the more appropriate style to adopt. Wiser heads than mine, on this occasion, said nay, therefore I felt bound to succumb; but I still am most decidedly anxious that the artists in glass painting may eventually so improve in the art, as to overcome all the difficulties they have at present to contend with, and I do most sincerely hope, that more charitable feelings may be exhibited for the future, from your correspondent towards any one who may hereafter be his fellow competitor; for although I had no personal knowledge of Mr. Wailes or Mr. Warrington prior to this work being executed, I think it right to bear testimony to the gentlemanly behaviour of the former, and although, as I before stated, I am still inclined to the truly pictorial, I am quite persuaded that such wholesale and unmerited expressions of condemnation of a fellow artist's work, will neither do good to the cause or add weight to the arguments of the latter, or gain for him the good opinion of the multitude, without which a professional man generally sinks into insignificance. I shall now leave this matter in the hands of Mr. Wailes, if he think well to notice Mr. Warrington's letter, and trust to my reputation for you (and your readers, if you will kindly allow it space in your journal) believing my statement. Apologizing to you, Sir, for thus intruding on your valuable time,

I am, Sir, &c. CHARLES MAYHEW.

14, Argyll-street, July 28th, 1846.

PREMIUM FOR THE PRESERVATION OF MONUMENTS.—On the suggestion of the French Committee of Historical Monuments, the Minister of the Interior has caused a medal to be struck, to be presented to those who have lent to his administration valuable assistance in the preservation of national monuments.

LESLIE'S PATENT FOR VENTILATION AND ECONOMY OF FUEL.

OFFICIAL REFEREES' AWARD.

Mr. Leslie having constructed a fire-place and chimney in his manufactory in accordance with his patent, the district-surveyor of St. George's, Hanover-square, filed an information against him as follows:—

"That the said John Leslie, in building the said chimney and flue, has done certain matters or things contrary to the provisions of the Act, namely, the breast of the said chimney, and the front of the flue in the said chimney, not being built at the least 4 inches in thickness, of sound bricks properly bonded, and the joints of the works filled in with good mortar or cement."

The award sets forth, that at the hearing Mr. Leslie "stated that his object was to try an experiment for the purpose of introducing a newly invented mode of ventilation by means of a vertical perforation in the fire flues, such flues being of less width than the minimum dimension permitted by the Metropolitan Buildings Act, that is to say, of less than 8½ inches in one direction."

And the decision was, "that the matter alleged by the district-surveyor is contrary to the Act, and further that the formation of the flue less than 8½ inches in any direction is contrary to the said Act, but inasmuch as the object of the work is to make an experiment, the official referees will make no direction thereon for a period of three months from the date hereof."

In connection with the above, we are called on to publish the following letter, addressed to the official referees under the Metropolitan Buildings Act:—

Offices for Mr. Leslie's patents,
59, Conduit-street, 24th July, 1846.

Gentlemen,—On receipt of your letter of the 22nd instant, yesterday, I caused the demand on me of 1*l.* 3*s.* 2*d.* to be paid to obtain your award; and having carefully perused the same, I formally protest against it; because there are most important errors of omission and commission in the document, whereby the real facts of the case are not to be found in it.

When this award is published it will appear on the face of it, to every reader, that I have surreptitiously committed an offence against the Metropolitan Buildings Act, which the vigilance of Mr. Foxhall, the district surveyor, had discovered: that he gave me notice of the irregularity on the 14th instant: that on the 16th he found I had not amended the irregular works; whereupon under the 14th section he laid an "information" against me; on the hearing by yourselves of which "information," I am in the award represented to have stated, that the "works therein referred to had not been altered or amended, but stated that his object was to try an experiment, for the purpose of introducing a newly invented mode of ventilation, by means of a vertical perforation in the fire-flues, such flues being of less width than the minimum dimension permitted by the Metropolitan Buildings Act; that is to say, of less than 8½ inches in one direction."

The experiments under my patent for economy of fuel and ventilation have been tried long since, and with the most perfect success. The true cause of the erection of my patent apparatus in my own manufactory is not to be found in the award, but is as follows:—

In my written application to you, dated the 25th ult., to rehear my case for a modification of the Metropolitan Buildings Act, pursuant to the 11th section of that Act, and to enable you to have ocular demonstration of the patent prior to your reporting on my application (as you are compelled to do by the statute) to the Commissioners of Woods, &c., I ventured "to suggest that you should allow me to carry out my own patent, in my own manufactory, under your own inspection."

The award I protest against omits all mention of that important fact, and also of the official answer to my application, dated the 26th of June, which informed me that upon payment of the fees therein stated, "the official referees will inspect the premises on Wednesday next, the 1st of July, at four o'clock in the afternoon."

The award I protest against omits to mention, that, I having paid the fees demanded, you, the three official referees, Messrs. Hosking, Shaw, and Poynter, did, on the 1st of July, inspect my manufactory, did examine the plans for the proposed apparatus under my patent; did suggest that there should be 9 inches of brickwork at the back of the fire; saw and examined the prepared iron-work to be built in with the solid brickwork, for the ventilating process; and after a very careful and attentive examination, authorised me to erect the apparatus at once, and which was accordingly commenced the next morning.

You will bear in mind, also, that at that interview I asked your permission to put in my patent apparatus for economy of fuel and ventilation, in my front offices, but your reply was "not at present."

The award I protest against further omits to mention the official letter from the registrar, in the name of the official referees and himself, of the 9th instant, requesting my attendance at the office of Metropolitan Buildings, on the 15th instant; and I beg your particular attention to why I was required to attend,—on "the introduction in the metropolis of your patent for economy of fuel and ventilation." I attended, but soon discovered that the object for which I was specially requested to attend was to form no part of the proceedings at the interview; the real matter was to prepare the way for instructions to Mr. Foxhall, the district surveyor, to lay an information against me, resulting in the award I now protest against, for the reasons already stated.

I beg to remind you that I have paid, or am liable to pay, since my application under the 11th section of the statute on the 25th of June, four distinct sets of fees under the Metropolitan Buildings Act, the total of which, I have every reason to believe, will exceed the entire cost of the erection of the apparatus and chimney.

What does my patent propose to effect? a saving in the metropolis of one-half of the coals used, or rather wasted, occasioning a money saving to the inhabitants of fifteen hundred thousand pounds a year,—an annihilation of more than one-half of the smoke nuisance in the metropolis; and with these enormous reductions of expense and nuisance, to enable every room even of the poorest inhabitant, to be well ventilated at all times, without violent currents dangerous to the inmates.

I wish to clear myself from doing any thing surreptitiously. I always go straight at my object; and I feel bound honestly to express my opinion, that you, the official referees, were in the right course according to the statute; but from what I have witnessed, I believe you have been diverted from the right into a wrong course by your "legal adviser," particularly as to the "information" (under the circumstances) and the award thereon.

I shall send a copy of this communication to The Builder, with a request that if, as is usual, that journal publishes the award, the Editor will also publish these observations.—I have the honour to be, gentlemen, your obedient servant, John Leslie.

ROCHESTER CATHEDRAL.

Mr. Editor,—I believe the only way to call attention to an error, and to have it remedied, is by addressing the editor of a public journal, as the subject then becomes known, and commands public interest.

I lately visited the town of Rochester for the purpose of viewing the cathedral, &c., and regret to say, that although much has been expended in its repair, and that not in all cases judiciously, one great feature has been omitted or neglected, but perhaps happily till the present period, when a better taste and knowledge begin to prevail as regards ecclesiastical architecture. I allude to the beautiful Norman doorway at the west end, which is gradually perishing, and in the course of a few years the ornamental work will be so completely obliterated as to render it difficult to restore it to its pristine beauty. The expense of accomplishing this work out of the funds of the cathedral would be so trifling, and at the same time praiseworthy, that it is hoped a hint may be found useful. If the present window was removed, and the original architecture restored (no very difficult task, as you may actually trace the former arches, which have been destroyed to substitute this abortion), additional praise would be due to the heads of the cathedral,—I am, Mr. Editor,

16th July, 1846. A Subscriber.

RIGA AND DUTCH WAINSCOT FOR BUILDING PURPOSES.

That description of oak which is known in England under the denomination of wainscot, and sold as such in the trade (and which appellation is derived from the German words wagen schoosz), is a kind of wood originally employed in the construction of the bottoms for waggons; hence the term, wagen-schoosz, or waggon-seat.

This wood is cut out of oak trees reared in the forests of Volhynia, where those are selected for felling that have a diameter of from 28 to 30 inches; and for this purpose such trees are selected that are tough in the context, and can furnish logs of from 14 to 15, or at least of 7 feet of clean timber, free from branches, and are then set apart for the better purposes in which oak is employed in building, whilst the shorter ends are cut up into staves.

The trees that are selected supply soft wood, straight in the grain, and easily to be worked. The logs of the lengths just stated are split in the middle, and often freed of the pith, so that supposing a tree to be quite sound, its section will represent about a semi-circle; but if the centre should happen not to be sound, and it should be necessary to cut a plank or so away, the remainder would assume a semi-elliptical form. Of this two slabs are then cut away (as marked AA), and the part represented by B, after having been transported upon sledges from the forest to the port of embarkation, is then shipped at Riga for the ports of England or elsewhere, and is known as crown English wainscot and crown Dutch wainscot, and second quality. This wood is subsequently sawn into planks and boards, and exposed to the action of the atmosphere during three years, at the end of which time it is considered to be adapted for use.

The wood that is used for staves comes from the same trees, and, as already observed, cut out of only shorter and weaker logs; and with this difference, that whilst the boards cut out of the wainscot logs have a width extending from the flat side to the circumference, that of the staves is only equal to the space extending from the broader flat side to a line parallel to it, produced by the previous cutting away of the part of the log represented by the letters ABC, in the annexed diagram; the shorter perpendicular lines indicating the staves, which are of the width of six or seven inches.

Besides the Riga wainscot already mentioned, and which is denominated crown Dutch log, some other is imported from Holland; and this description is rare, and much esteemed.

Holland had carried on a very extensive trade in all kinds of European wood, both in and export, extending their exports even as far as the West Indies. Towards the close of the sixteenth century, Cornelis Corneliszoon, of Rutgeest, invented the saw-mills in Holland. The first of these mills was erected by the inventor at Zoandam, and with two blades, and these mills were very soon introduced into Amsterdam, Rotterdam, Leyden, and Dordtrecht, and rapidly increased in number. Wind was in most cases the motive power employed, and they were constructed upon two known systems. By the first the whole mill is movable upon an axis towards the base, by the second the cap only moves upon an axis placed just below it and upon the top.

The transport of wood into Holland is made on the Rhine, brought in small floats along the Main, Moselle, and the Soar, as far as Andernach, near Bingen, on the Rhine, in which they unite. These small floats are then united into a larger raft, often from 700 to 1,000 feet in length, and from 40 to 90 feet in width, built so as to adapt them to the navigation of that river, and divided into three compartments, the central division being by much the longest of the three, whilst the leading and closing divisions may be considered as the van and rear; and they are propelled by oars similar to galleys. The timber is built up into three compartments, on logs and fir-planks; and the oak timber on the top, pulling along behind the raft a large number of masts, secured to it by chains and ropes. Several temporary dwellings are erected on

these rafts, for the accommodation of the master and his crew, which consists sometimes of from two to five hundred persons, some of these erections being used as kitchens, others as store-rooms, &c. The value of one of these rafts amounts often to half a million of florins (from forty to fifty thousand pounds sterling). Within late years, this branch of trade has been considerably reduced, and the importation of wood is now almost exclusively confined to the quantity required for home consumption.

Dutch wainscoat has preserved, even in England, its reputation for fineness and good figure of oak. About ten years since, Messrs. Armstrong and Smith were charged with supplying some flooring and ornamental work for Windsor Castle; and they were on that occasion obliged to proceed to Holland, to select some there, not having been able to meet with any in the whole stock in London, of Riga wainscot, that would give satisfaction.

Since that time, small quantities only of Dutch wainscot have from time to time been imported into England, and it was only in the last year that ten or twelve cargoes, consisting of planks and deals, were imported direct from Holland, the first of which consisted of very good wood, and fetched good prices, whilst the others, that were of a secondary quality, were sold cheap. Since then two cargoes of Dutch wainscot of the first quality have been lately imported from Holland in logs, and remain still in the docks, the owner refusing to sell them at reduced prices, and the buyers entertaining some prejudices against it, pretending that they would lose too much by the measurement; for as the logs are of the form of half ellipses, and the custom authorities have measured them in strict conformity with the regulations, there is some truth in these pretensions; but as the price is nearly twenty-five per cent. lower than that of Riga wainscoat, and as the slabs have a value likewise, the loss in measurement is made up very advantageously by the difference in price, independently of the superiority in quality; and as the Dutch wainscoat has laid nearly from nine to twelve months in the water, it requires not half the time for seasoning required by Riga wainscoat, for which reasons it may be said to offer advantages to builders and timber merchants.

It is almost superfluous to observe, that both Dutch and Riga wainscot is employed in the construction of the internal part of buildings; and we may consider for this purpose the Riga wainscot as possessing greater strength, and the Dutch as being more figured, and easier under the tools.

It is at the same time to be greatly regretted, that in the majority of buildings of recent erection, both in London and in the country, scarcely any attention is paid to their strength and duration. Whilst our forefathers were studious to raise structures that were to defy the ravages of time itself, their posterity seem bent upon building dwellings that should scarcely survive themselves: and if this were really their object, they could not have resorted to better means to effect this end, than the employment of wood which the dry-rot so soon destroys, as is proved to be the case by daily observation and experience. STEINITZ.

THE ALLEGED SINKING OF WESTMINSTER BRIDGE.—On inquiry we are informed, that the only foundation for the recent rumour is the fact, that, during the last two years, since the former sinking of six to seven inches, when the piles were withdrawn, the centre of the bridge has sunk, by degrees, two or three inches more, but that no recent or sudden change has been observed. The jointings present no trace of any such occurrence. The committee, however, are said to have unanimously resolved to pull down the whole structure.

LEASES IN IRELAND.—The bill of the late Government to facilitate and encourage the granting of certain leases for terms of years in Ireland, is passing through the House. Mr. Hume has given notice of a motion that its provisions should be *extended to England*. It is proposed by the bill that leases for terms not exceeding thirty-one years, nor less than fourteen, reserving a rent not exceeding 50*l.* a year, may be made according to the form in the schedule, and that the stamp duty should only be 2s. 6d.

LEGALIZATION OF ART-UNIONS.

WE are glad to be able to state that Mr. Wyse's Bill was re-committed on Wednesday last by a majority of fifty to eighteen, after a long debate, and was read a third time on Thursday. In the course of the debate great ignorance was shewn by honourable members, who ought to be better informed, as to the scope and intention of these associations. Mr. M. Milnes, Mr. Ewart, and Sir George Grey, ably supported the mover of the Bill. The amended provisions of the Bill, under which protection is granted, are as follows:—

Provided always, "that a royal charter or charters shall have been first obtained for the incorporation of any such association, or, provided that the deed of partnership or other instrument or instruments constituting such association, and the rules and regulations relating to the proceedings of such association for such purposes as aforesaid shall have first been submitted to the consideration, and be approved of, by a committee of her Majesty's most honourable Privy Council, and a copy thereof deposited with such committee; and that it shall be expressed in every such charter, deed, or instrument, that it shall be lawful for any committee of her Majesty's Privy Council, to whom the consideration of Art-Unions shall be referred by her Majesty, whenever it shall appear to them that any such association is perverted from the purposes of this Act, to certify the fact to her Majesty; and thereupon it shall be lawful for her Majesty to revoke or annul the charter, deed, or instrument, under which the association so offending shall have been constituted; and nothing in this Act contained shall be deemed to apply to any association whose charter, deed of partnership, or other instrument constituting the same, shall have been so revoked or annulled."

The committee of the London Art-Union deserve the thanks of all lovers of art and friends of national education, for the energy with which they have prosecuted the measure.

THE MANAGEMENT OF THE EASTERN COUNTIES RAILWAY.

A CORRESPONDENT ("Archi"), in reviewing the evidence of parties under examination, as to the late accident on the Eastern Counties line of railway, thus comments upon the facts of this unfortunate case:—As for the evidence itself, it need not now be here gone over.

Is it not monstrous, in perusing the evidence of the higher officials, says our correspondent, to observe with what contempt they treat even the rules they have laid down for their own guidance? They appear to have as perfect a disregard for them as for the lives of their fellow beings. They knew it to be their duty to supply the engine drivers and stokers with books of regulation, and to ascertain that they kept these books in their possession; yet they did not know whether any such regulations were ever given to these men, though they probably knew very well that they worked the engines without the slightest reference to them. Our correspondent, therefore, considers these parties to be the truly responsible and guilty ones; and thinks that they ought to have been taken into custody as well as their inferiors. He directs attention to the fact, that the more immediate cause of the accident evidently arose from the neglect of these very regulations; inasmuch as a smith in the company's service admits, that he and two other men, besides the only proper officers, were on the engine, and, in all probability, engaged in conversation with those in charge of it, and whose attention being thus withdrawn from their duty, prevented them from observing the signals till it was too late: and thus does our correspondent endeavour to fix the responsibility and guilt upon the proper parties. Moreover, had Clare *known* the rules, he would be found to have disobeyed more than one of them—firstly, in travelling beyond the regulated speed; secondly, in not looking out for the signals; and thirdly, in not sounding the whistle on approaching the station. The engine driver, in the present instance, appears to be blind of an eye! Should an office such as this, to the fulfilment of which, above all others, it is requisite that a man should "have all his eyes about him," be consigned to any one labouring under such a defect?

By way of prevention and improvement, our correspondent suggests various measures amongst which we have space for allusion to only the following, namely, that both the engine drivers (who ought to be engineers, and at least twenty-five years of age) and the stokers—though both of them, of course, chosen out of steady, sober men—ought always to be inspected by a proper officer previous to starting;—that each engine should have, to run before it, a carriage, or frame-work with wheels, and horizontal springs, but without a body, so as to receive and break the force of any accidental concussion;—and that a similar guard should be placed behind each tender, and behind the last carriage of each train. He also suggests the formation of "protecting rails," about a quarter of a mile in length, at each station, both for the up trains and the down, in order to prevent one train from running into the rear of another.

ALL SAINTS' CHURCH, ST. JOHN'S WOOD.

THE new church of All Saints, built under the able direction of Mr. Thomas Little, and recently consecrated, stands nearly opposite to the Eyre Arms Tavern, on ground given by Colonel Eyre. It is designed in the perpendicular style of Gothic architecture,—the style of the fifteenth century,—and is constructed externally of Kentish rag, with Bath stone dressings. The prolongation of the nave, which is thirty feet in width, forms a chancel about twenty feet in depth. The length of the nave and chancel is ninety-eight feet, and the breadth of the church, including the aisles, is sixty-one feet. A tower is designed, to be placed at the north-west angle, consisting of three stories, the upper story lighted on each side by traceried couplets; the battlements of the tower are perforated with quatrefoil panels, flanked by pinnacles rising from clustered buttresses. Above the tower a spire is intended to be placed, the whole height of which will be 120 feet from the ground. Our engraving shews the building as it will appear when finished, but only the lower story of the tower is at present executed. This story gives access, by a stone staircase, to the gallery, and a similar staircase is placed in a vestibule on the south side.

Below the four-light perpendicular window in the west end of the nave, a small doorway has been formed for the use of the soldiers from the neighbouring barracks; this is not shewn in the engraving.

This end of the church is flanked by double buttresses of three setoffs, or water-tables, terminated by detached crocketted pinnacles. The north aisle is concealed by the tower before-mentioned, and the termination of the south aisle recedes from the west front, presenting a single light transomed window.

The north and south sides of the church are similar to each other, and are each divided into three compartments by flanched buttresses. Between each buttress are two transomed windows of two lights each, with tracery work in the heads.

The chancel end corresponds with the west end, but the chancel window is larger in dimensions, containing five lights, subdivided by a transom into ten compartments, with perpendicular tracery in the head. The vestry is at the south-east angle.

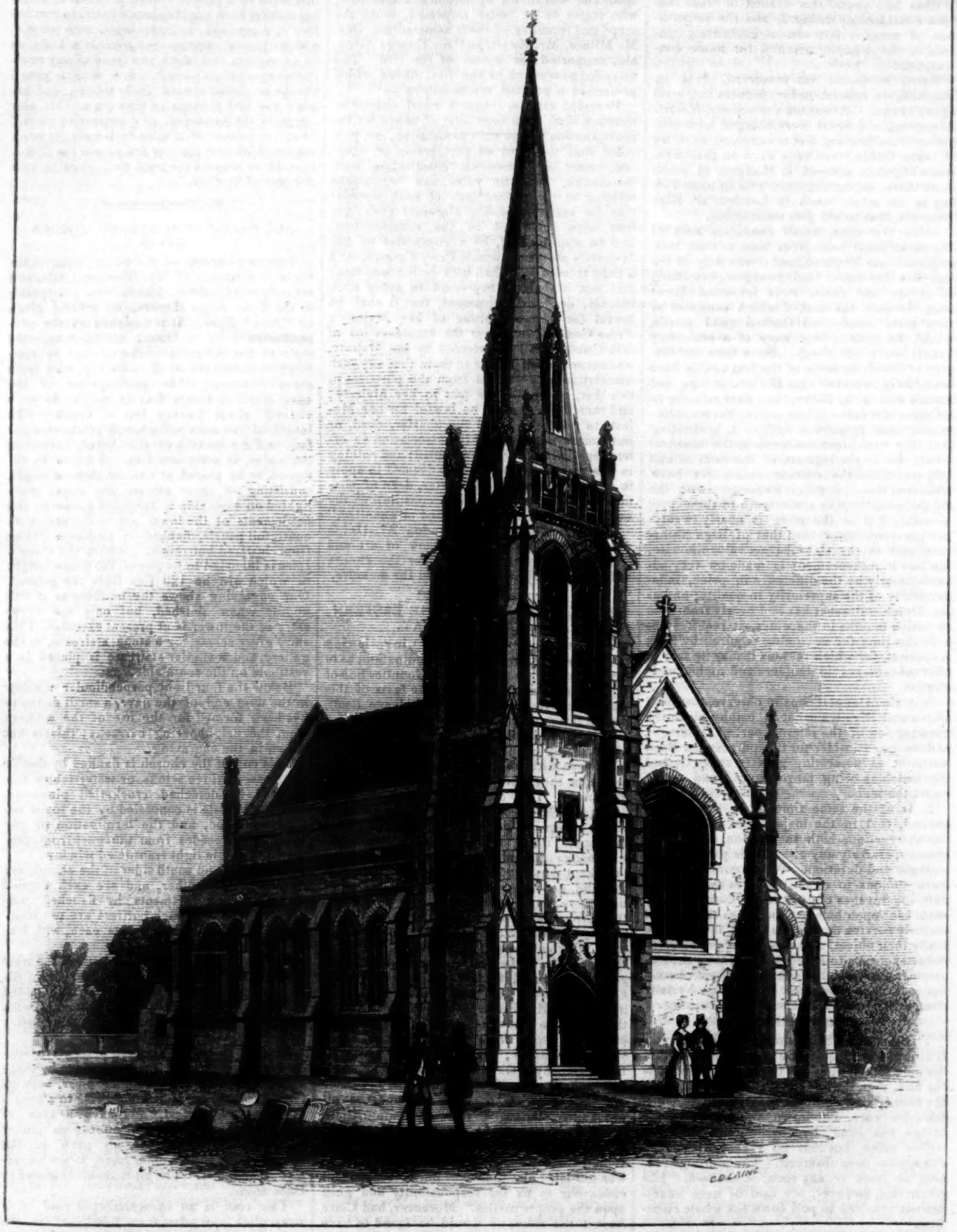
The interior of the church presents a spacious nave, separated from the aisles by three arches springing from slender piers, with attached columns. The arches rise to a height of twenty-eight feet, and have a span of twenty feet. This width affords an almost uninterrupted view from all parts of the church, but on the other hand, is not advantageous in effect. The piers are all executed in Caen stone.

The roof is an open-timbered roof of a steep pitch, springing from bracketed corbels, and rising to a height of fifty-five feet from the paving. The tie-beam is twelve feet by six inches; purlins, nine inches by six inches; rafters, four by three; the curved principals, nine inches by four and a half. The span is thirty feet, and the rise nineteen feet.

The roof of the aisles is also open, the curved principals of which spring from stone corbels. The woodwork of the roofs is stained to shew the natural grain of the wood. Galleries extend over the aisles, and at the west end, three seats in depth. The

ALL SAINTS' CHURCH, ST. JOHN'S WOOD.—(North-west View.)

MR. THOMAS LITTLE, Architect.



seats in the nave and body of the church are inclosed, but being low in height, present the appearance of open seats. The whole of the seat framing is stained with asphaltum and varnished.

The chancel window is filled with stained glass, executed by Mr. Fairs, of Mortimer-street. The head contains figures and foliage, and the ten lights of the window emblematic devices of the Evangelists and the eucharistic service. The upper part of the west window is also filled with stained glass.

The communion railing, table, tablets, pulpit, and reading desk, are of oak. The communion railing, which is a scroll panel of Gothic tracery, the table, and the altar screen, were executed by Pratt's patent machinery. The pulpit is a hexagon, standing on a single buttressed stem. The sides of the pulpit are panelled, and each panel filled in with the linen pattern decoration, carved by hand.

The church was built by Messrs. Burton and Sons, and the whole cost, including the fittings and inclosure walls, was about 7,000*l*. It will seat 1,300 persons.

The building is creditable alike to the taste of the architect and the munificence of a reverend gentleman, by whom the funds for its erection were chiefly provided.

KITCHEN ARRANGEMENTS.

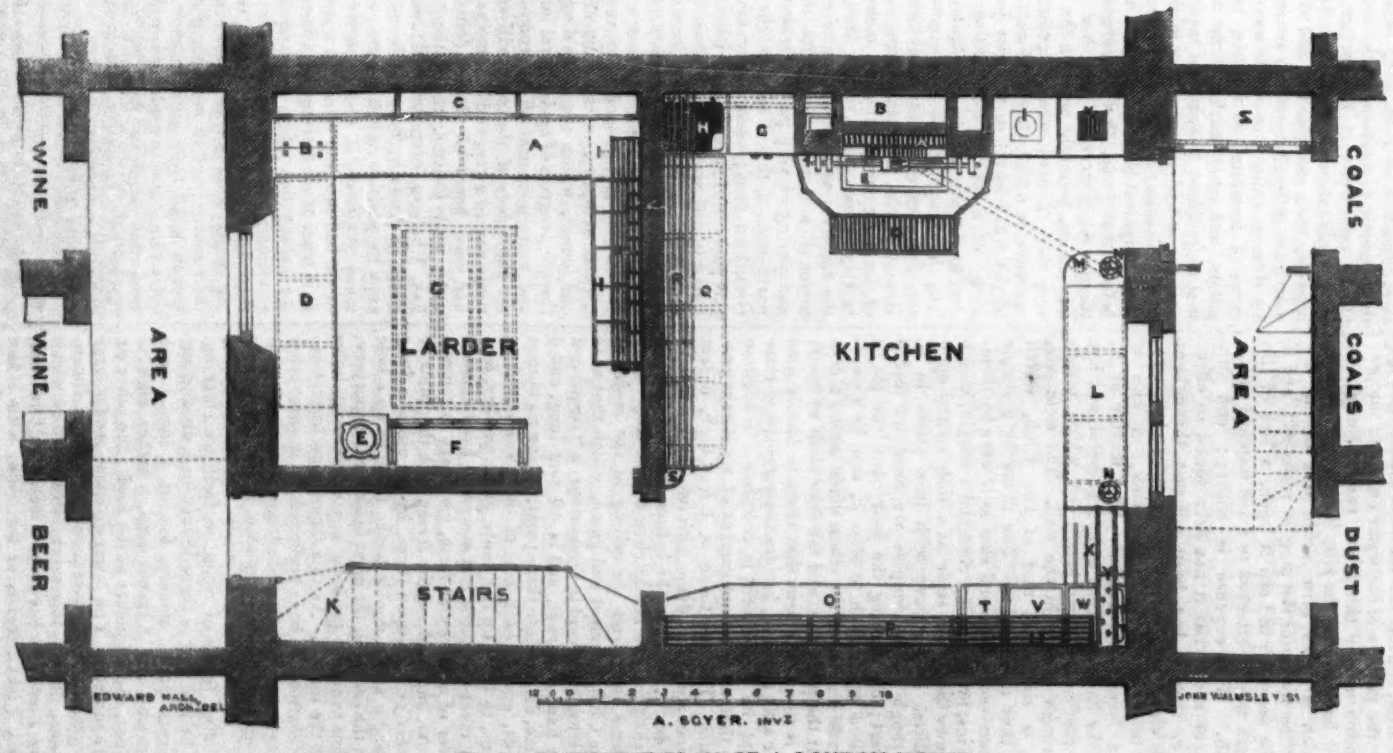


Fig. 1.—BASEMENT PLAN OF A LONDON HOUSE.

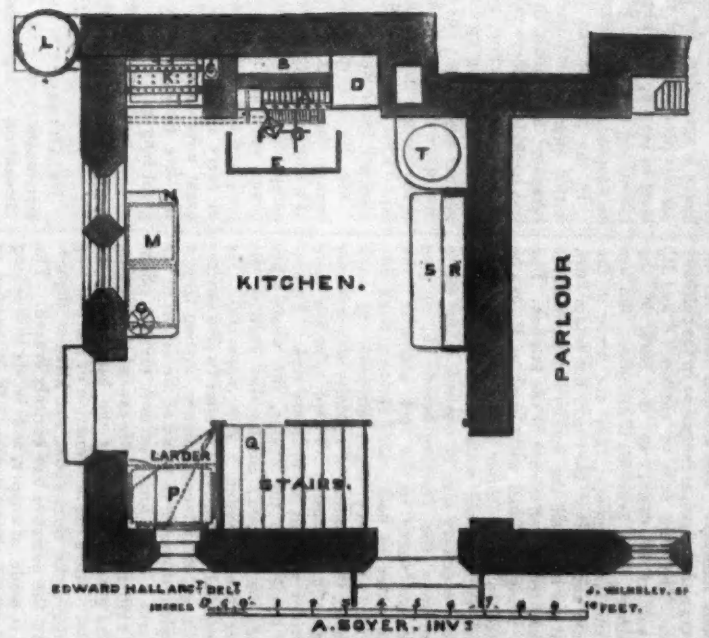


Fig. 2.—THE COTTAGE KITCHEN.

Reference to Plan of a London House.

THE KITCHEN.

A The kitchen-grate, for roasting, constructed with perpendicular bars, about two feet in height, and backed with Welsh lumps. The opening of the grate has a slide, working up and down, to regulate the draught.
B A boiler behind the grate, from which a constant supply of hot water is obtained.
C The smoke-jack.
D The screen and plate-warmer.
E The dripping-pan.
F The ash-pit, having an air-drain attached, communicating with an air brick at the exterior, to increase the draught required to turn the smoke-jack; it would also prevent the chimney from smoking.
G The oven, heated by a fire beneath.
H The bain marie, heated by hot water circulating from the boiler.
I The hot plate, heated by a fire. The coal would be kept underneath.
K A charcoal, or gas stove.
L Thick kitchen table, with sliding shelves and rows of drawers.
M Place for wet sponge to wipe the table.
NN Seasoning-box, and fish-sauce box, made to turn on centre pivots.
O Dresser, with cupboards beneath, to put four entree services of china; above it the shelves and hooks for covers, baking-sheet, &c.
P Iron rail, or shelf for coppers.
Q Dresser for dishes, with drawers for small kitchen utensils, one drawer for fat and a slide-board; over it a rail, with hooks for the covers.
R Iron rail, similar to preceding.
S Rack for the spits, as described in the kitchen of the Reform Club.
T The scrubbing-board.
U The hot water tub, with taps.
W The cold water tub.
X The draining-board, grooved and inclined towards the cold water tub.
Y The plate-rack; that part which is over the tub being perforated with holes at the bottom. The other half of the bottom is inclined in the direction of the holes.
Z A cistern, in the front area.

THE LARDER.

A A dresser with drawers beneath, to deposit sauces and cold meat.
B Flour box.
C Narrow upright closet for preserves and spice jars.
D Marble slab for pastry, with ice drawers, and pickle drawers beneath.
E Mortar.
F Safe for cooked meat.
G Rail hung from the ceiling to hang up meat and game.
H Boxes of different sizes in two tiers; they are made of slate with wooden moveable fronts, and are for vegetables.
I Iron rail above, for moulds and spices.
K Potatoes.

SINK BELL TRAP.

Reference to Plan of the Cottage Kitchen.

A The grate, with perpendicular bars, about 18 inches in height. B The boiler.
C Reservoir to supply the boiler—the pipe from which has a ball cock. D The oven.
E A common wooden screen, covered with tin.
F Swing bracket to support a pan.
G Bracket for roasting, and double gridiron to hang before the fire. H Ash-pit, as before.
I The sink, with taps for hot and cold water. The coal-box might be placed beneath. L The water-butt.
K The plate-rack, over the sink.
M The dresser, with drawers and slide-boards.
N A place beneath, for the sponge and water.
O The salt and spice-box.
P The meat-safe, placed at the upper part of the larder, which should be well ventilated by panes of perforated zinc in the window.
Q Potatoes—beneath the stairs.
R Plate shelves.
S Shelves for the pans, below the plate shelves.
T The copper.

THE ARRANGEMENT OF KITCHENS AND COOKING APPARATUS.*

Architecture has lately been recommended by several writers, as a fit and agreeable study for ladies. Our own pages have more than once borne witness to the abilities of fair correspondents. We may therefore assume, that our readers are not wholly comprised by one sex, and as Mr. Soyer has addressed many of his remarks to the ladies, we shall probably not be wrong in concluding, that they in some degree direct the duties of the kitchen. Many of our professional readers will, we are sure, recollect, as we do, how often they have been indebted for valuable hints in the arrangement of a house to those, who must often be more familiar with the ends desired than the master of the future mansion. To our fair readers, therefore, we appeal as to the truth of our remarks on the great importance of attention to the apparatus of the kitchen. Though a less interesting subject than many, with which we could fill our pages, it is even in an ordinary house, a matter second to none in importance. It is this consideration, added to that of its having been much neglected, which leads us to devote additional space to Mr. Soyer's illustrations.

We need go no further to prove the importance of arrangement and contrivance, in a kitchen for purposes similar to that of the Reform Club: the same attention would be required from somebody in the kitchen of a hospitable mansion, and to whom can the arrangement be confided with any chance of success, but the architect. It is therefore necessary, that he should have previously studied these arrangements, and their uses; so that even in an ordinary case, he may provide such conveniences as will tend to cleanliness, comfort, and economy. The position of a few taps, or of a row of hooks, may subject him to severe comment on his professional skill, and it is his duty to consult the interest of his employer in the arrangement of the kitchen fire-place, just as it is in the plan and execution of the fabric.

Mr. Soyer shews that common kitchens could be fitted up with all the apparatus, required for an entertainment of some pretension. By means of a little contrivance, the object of the ordinary kitchen could be answered quite as effectually as that of the Reform Club. To explain this, he has given plans, one of a kitchen and larder in the usual basement plan of a London house, one which might be contrived in the back room of a bachelor's chambers, and a third, such as might be adapted to a small cottage or suburban residence. In these he called in the aid of an architect, who has devoted some attention to the subject. In the plan, (fig. 1) the kitchen is supposed to occupy its usual position at the front of the house, the only alteration being in the position of the area doorway, which in most cases, not always, would be beneath the street door. This change seems to have been made in order to accommodate all the fittings, of the dimensions which Mr. Soyer considered necessary, but in the majority of cases, we see no reason why the door could not occupy its usual place. The present position would by many persons be objected to, as it might be thought to interfere with the draught of the chimney, and it seems to have been with the view of preventing the possibility of this, that an outer door in the area, and a draught to the ash-pit were designed. The grate is similar to that in the Reform Club, described in the previous notice (pp. 341-342). It appears that the great advantage of this grate is, that the smallest bird or the largest joint can be cooked, though there is only 4½ inches depth of coals; a consideration this last, of some importance. "Another advantage is, that broiling can be done in a very superior style, by means of a double grid-iron, suspended from an extending bracket, hooked over the top bar." The screen in front of the fire, with the folding-doors, includes closets, in which dishes can be placed upon the grated iron shelves, and removed by sliding doors at the back. The screen and doors completely inclose the fire, so that there is no inconvenience from heat in the kitchen. The roasting process is performed by the smoke-jack, by means of the spits, for which a rack is provided. The other conveniences will be explained by the reference, and by the cuts in the previous number. The kitchen table has the drawers and shelves, arranged as in that already given. The iron rails or shelves (P and R) are similar to some, at the back of the gas stoves, in a previous illustration, and are for similar purposes; they are made in the manner shewn, that they may not retain dust. What we may call the scullery department is represented in one corner of the kitchen. The pans being scrubbed with sand at P, can be washed in warm water at V, and afterwards rinsed in the cold water tub, W. In like manner crockery may be washed, being set to drain upon the draining-board, X, or the plates are ranged in the rack above, Y; the waste water in both cases running back into the tub. By very slight attention to such minutiæ, the comfort of a family may certainly be greatly increased. These tubs are quite sufficient without the ordinary sink. To prevent smell from the drains, the waste-pipes should be trapped; and for that purpose Mr. Soyer has arranged a new apparatus. He states, that he contrived it after twelve months of the greatest inconvenience, arising from a complete stoppage in many of the drains of the Reform Club, which not only created offensive effluvia, but frequently caused the opening of the greater portion of the basement of the house. Since the introduction of the bell trap to the sinks throughout the kitchen department, the nuisance has entirely ceased. The bell is made of copper, and is six inches long and ten in circumference. It is screwed to the sink, and has several holes pierced through for the passage of the water only, and the prevention of any thing else passing down. It will be seen that the plug is attached to a rod, which is in its turn joined to a chain. By pulling the latter the plug is removed; and if it be necessary to keep it open, a link of the chain may be attached to a nail fastened in the wall. The expense is trifling; and Mr. Soyer adds, that it has been found so effective, that it has been adopted throughout the club, and in many kitchens elsewhere. It is shewn at *a* in the sink, in one of the former illustrations. The mortar at E, in the larder, is fixed upon a pedestal, and has a pestle, the long handle of which passes through a ring in the wall. The meat-safe, F, is similar to that at the Club, which is thus described:—"The doors by a simple contrivance open and shut as it were by themselves, by means of a cord and a weight, which draws them, the same as a sash rolling upon pullies, in a groove with iron plates in it, through which two pins are fixed six inches apart; on pushing the door open the pin is raised underneath to stop it, and by a retrograde motion of the elbow when taking a dish out the pin drops, and the door shuts of itself; it is so quickly done that there is hardly time for a fly to get in, besides the wires are so close that the impediment is complete; in addition to that an excellent current of air always prevails. The meat-safe is 4 feet high, 6 feet wide, and 3 feet deep, with two shelves inside: under it, between the bottom and the floor, is a shelf for jars and kitchen basins, &c." The frame hung from the ceiling in the larder of the Club, for meat and game, which that at G resembles, except in dimensions, is "suspended by fixed iron rods, and is 10 feet long, and 6 wide, divided into three parts, having eight iron rods, one on each side of the transverse battens, to hang up the joints, game, poultry, &c., by means of loose and moveable hooks tinned over of a particular form, very easy to remove from, and hook on, the frame with the joints or other articles upon them, by the aid of a long handle with a double hook, there being a hole in the centre of the meat hook for that purpose, thus avoiding pricking any unnecessary holes in the meat." As this requires no further explanation, we have preferred, as in some other cases, to substitute illustrations of greater importance. The vegetable boxes, like those in the Club, are made of slate, having sliding fronts of wood, to facilitate cleaning. The first row is there 10 feet long, divided into eleven parts, namely, five of 1 foot 1 inch opening and 8 inches deep, 6 inches high in front, and 10 inches at the back; the other six are smaller. The lower divisions are for large vegetables, and consequently of greater dimensions, divided into seven boxes, five of which are 1 foot 7 inches deep, 9 inches high in front, and 1 foot 5 inches at the back, with 1 foot 5 inches opening; the other two are for potatoes. "The whole appearance of the above boxes is agreeable, for you see at once all the various productions of the kitchen garden the most in season, and kept separate. There is something new in the plan which might easily be adopted. It is remarkably clean and cool."

In the plan of the bachelor's kitchen we notice many conveniences arranged in a small compass; and should the desires of our houseless bachelor readers extend beyond the limits of a steak or a chop, perhaps they might not do amiss in fitting up a room, somewhat in the manner suggested; but we have space for only one other illustration, and therefore devote it to the cottage kitchen, as more practically useful. This will be sufficiently clear from the plan and reference.

Mr. Soyer's main object appears to have been to shew, that the principal conveniences of a complete kitchen were not necessarily incompatible with the smallest house. He has drawn attention to the importance of the subject, and our professional readers may be able to carry out many of the suggestions with great advantage, and it is with this view that we have thought fit to notice the work at so great length.

* See page 344, *ante*.

BRITISH ANTIQUITIES IN LINCOLNSHIRE.

Dr. Oliver, the indefatigable writer on free-masonry, who has done much towards the illustration of Lincolnshire, which at present much needs attention in this respect, has just now published an interesting little volume on the monastic institutions of the county.* Dr. Oliver says truly, in his preface, "The city of Lincoln abounds with materials of great interest, both monumental and documentary, which are suffered to remain almost unnoticed. Its Roman antiquities are numerous. Specimens of tesselated pavements, basements of pillars, and other marks of the occupancy of that magnificent people, are turned up wherever the soil is excavated to a moderate depth. Mr. Nicholson, one of the projectors of the Topographical Society, says, in a paper read before that body, that 'amongst the opportunities for observation that had fallen to his own share, he might mention the discovery of very many Roman coins, together with brick matrices in which they were cast, on the site of the tread-wheel of the city jail;—the removal of a considerable portion of the east wall of the city next to Broadgate, when levelling the sheepmarket;—the exposure of a very singular work of an octagonal form, built with Roman bricks, when excavating for the cellars of the house occupied by Mr. Jackson, chemist, in High-street, north of the Butter-house;—the discovery and destruction of extensive remains of a Roman bath, with the hypocaust and paving of very perfect tesseræ, near the north end of the Wesleyan chapel, next to Grantham lane;—and many others.' Since this paper was read, two pavements have been found in different parts of Lincoln; and many remarkable antiquities were discovered amongst the excavations made by Messrs. Norton, when building their house in High-street.

The city is surrounded by vestiges of the highest antiquity, in the form of stone idols and tumuli, which are daily disappearing before the progress of agricultural improvements; and every memorial of our remote ancestors, the aborigines of the soil, will soon have entirely passed away, and become as though they had never been. A British deity on Cabourn wold, near Caistor, called the 'Stone sack,' has, I believe, been removed; and the Drake Stone at Anwick, may not be suffered to occupy its position much longer, although, for many centuries, it was regarded with devotional feelings, and esteemed a potent divinity. It is true, these feelings have been effaced by the substitution of a more perfect plan of salvation; but the superstitions attached to them are still in being; and it is an interesting employment to trace these superstitions to their source; and to mark the progress of the human mind from point to point, till the inquiry terminates in traditions, widely differing from the primitive fact, but corresponding thereto by a figurative reference, and an indubitable connection.

In every part of the country, similar monu-

* An Account of the Religious Houses, formerly situated on the Eastern Side of the river Witham. By the Rev. George Oliver, D.D. Spencer, High Holborn: 1846.

ments exist, marking the ages that have gone by, and each distinctly proclaiming the epoch to which it owes its existence. The residence of the Britons, the Romans, the Saxons, and the Danes, is designated by appropriate monuments. These were followed by the baronial castles, and religious houses; the cathedrals and churches of the Normans; and the distinctive style which characterized each particular era, is marked in broad and indelible lines which cannot be mistaken. These remarkable peculiarities appear to have been unaccountably overlooked. If they are seen it is only to be disregarded; and the student in antiquities moves on in the dark, enlightened only by painful and laborious researches, with scarcely a ray to conduct him in his path."

Of this "drake-stone," our author gives a description in the appendix:—

"It is a large irregular oval stone, standing in a field about half a mile north by west of the church. When I first heard of it, its upper surface was sunk 4 feet beneath the surface of the earth; and it was consequently invisible; but by the kindness of the rector on whose land it stands, it was disinterred and placed in its primitive situation. It occupies a conspicuous position; commanding not only a line of beacons which run along the borders of the fen towards the east, but also *the high place* at Dorrington, and the station at Kyme; and from its vicinity to Tattershall might be dedicated to Teut or Mercury. The dimensions are 6 feet 8½ inches long, by 4 feet 2½ inches broad, and 7 feet 2 inches high, measuring from the extreme points; and it was selected by the Druids, for its egg-like shape, because an egg was considered as the fountain of life, and an expressive emblem of the Creator. It was supported on a smaller stone so contrived as to form an aperture of sufficient capacity to admit a man on all fours. The upper part has been flattened by the chisel, and contains an irregularly shaped basin with lips or channels which extend to the edge of the stone. Though of vast weight, it has evidently been brought from a distant part of the country as it is of a different quality from the material which the neighbouring quarries produce; and the lordship of Anwick is a strong clay soil without any substratum of stone whatever.

As the native Britons had an overweening attachment to these stone idols, it was the advice of Pope Gregory to Augustine, for the purpose of reconciling the Pagan converts to the new faith, to celebrate its rites in places which were invested with a sacred character; for the missionaries, finding it wholly impracticable to wean them from their accustomed veneration for these holy places, in their proselyting zeal not only transformed the bards and Druids into Christian priests, but inscribed the stone idols of superior sanctity with the emblem of their faith, thus transferring the adoration to the Saviour of mankind."*

The river Witham was accounted a sacred stream, and its banks were the site of many edifices of Druidical origin. The larger open temples of the Britons were frequently removed to give place to a Christian church,—"which excited the unappeasable indignation of the people, who appear to have been shocked at the sacrilege. Specimens of this indignation may be found in the bardic writings. Thus, Merddin complains to Taliesin, amongst other things, of the profanation committed by a removal of the *grey stones*, for which a terrible retribution is threatened. (Welch Arch. vol. 1, p. 48,) And in another poem (Ibid. p. 74), this retribution is explained to mean, the absolute destruction of the world; which the fanatical bards expected would certainly take place, as the punishment of such a horrible desecration."

"There are instances on record where the temples contained two altars, one for the use of the Christians, and the other for the unconverted natives, who were permitted to assemble there, and offer their sacrifices to the Saxon triad Woden-Thor-Frea.

Of the conversion of heathen temples to the service of Christianity there are many instances:—

"At Stanton Drew in Somersetshire, are the ruins of a Druid temple, to which the devotional feelings of the people were so strongly wedded, that it became necessary to consecrate it to the services of Christianity by the erection of a church and nunnery on its site. Abury Church was not only built on the foundations of the ancient temple, but was constructed of the very stones which composed the sanctuary. The Druidical monument of Long Meg and her daughters, in Cumberland, was consecrated by the erection of Addingham Church; as was also the Giant's Cave on the river Eden; and even the stupendous temple of Stonehenge had Christian honours attached to it, by the construction of a church near to its external boundary; and the village was dignified with the original appellation of the sacred monument. And this custom was not peculiar to the Druids of our own country, for Stukeley says, that at Chartres, in France, where the Gaulish Druids held their chief assembly, there is now a magnificent church built upon the very spot where stood that most celebrated open temple."

Our author concludes that the abbeys of Bardney, Tupholme, Stixwold, and Kirkstead, of which he gives much curious and erudite information (not architectural), were each the seat of a Druidical place of worship, as already referred to.

"In many cases the name of *chapel*, as at Chapel Hill on the Witham, at Dorrington, and Kirkby Green, each of which had its Chapel Hill, will indicate a site of Druidical origin."*

Relative to Kirkstead Abbey, he says:—

"Kirkstead, like Bardney, is a British name, 'Cir, hirs, shires, churches, all took their appellation and form from the Celtic radical *hir* or *cir*, a circle. Church or kirk comes from *kir-rock*, the circle of stones; by contraction it is *Kirk*, and by corruption church. A kirk, church, or place of worship in druidical times, was literally no more than a circle of stones.' (Hutch. Cumb. vol. i. p. 251.) The learned and ingenious Faber says, that '*circus* and *circulus* are both derived from cir or cur, the sun.' (Mys. Cab. vol. i. p. 213."

As bearing on this point, we may mention that in a letter from Mr. Charles M. Jopling on certain Druidical remains in Furness, communicated to the Society of Antiquaries by Mr. Godwin (*Archæologia*, Vol. xxxi. p. 448), a circle (formed by a bank of earth and stones) is described, which is still called "The Kirk." Tradition says, "it was a place where their forefathers worshipped." The manor in which it is situated, is known as that of Kirkby.

* A curious instance of this kind of compromise is exhibited in the parish of Laan Hammwich, in Brecknockshire, in the shape of a beautiful specimen of a Druidical adytum or kistvaen, near which the early converts not only erected a church, but converted the adytum itself into the hermitage of a Christian saint; and no greater proof can be wanting of the attachment which was borne by the natives to the idolatrous temple once existing on the spot, than the fact that it required the aid of such an artifice to accommodate the true religion to the superstitious spirit of the times.

* Thus, on Temple Downs in Wiltshire, a Kistvaen formerly existed which bore the name of Old Chapel; and many examples of the same kind are stated in a letter from Dr. Gordon to Mr. Aubrey, which has been inserted by Hutchinson in his History of Cumberland.

NOTES IN THE PROVINCES.

THE Poor Law Guardians of the Birmingham Union propose to erect a new workhouse on the site of the present one, adding about one-fourth to the extent of the present buildings, an accommodation which "A Guardian," in *Aris's Birmingham Gazette*, represents as altogether insufficient, at the same time recalling attention to "the startling fact, that no child born in the Birmingham workhouse for many years past has ever been reared," and therefore strongly advocating the propriety of erecting the new workhouse in a high and well drained situation at Birmingham heath, where there are twenty acres of land belonging to the parish.——The new church at Aston, near Stone, erected and endowed by Lord and Lady Vincent, was consecrated by the Bishop of Lichfield on Thursday week.——The Commissioners of Paving and Sewerage at Liverpool, have been very properly adopting measures to ascertain the perfect security of the balconies and stages on the line of procession during Prince Albert's visit.——It is proposed to open the three new public parks at Manchester on the 12th proximo, the anniversary of the origin of the 32,000*l.* subscription.——The parish church of St. Peter, Nottingham, was re-opened on Sunday week, on the completion of its general repair. During the removal of the whitewash, &c., several curious and interesting discoveries were made, such as that of a piece of ancient church music of about the year 1480 scratched upon the stone, probably by the mason who worked it. The flowered diapering was also laid bare in many places. It was for the express purpose of concealing any "profane show" of decorations, &c., as many of our readers are probably aware, that whitewash was first used in churches. The repairs were entrusted to Mr. Place, a young Nottingham architect, and appear to have given complete satisfaction.——Messrs. Bowers and Murray have so far completed their contract of the Railway Dock, at Hull, that the water has been admitted, and the workmen withdrawn to their new undertaking at the East or Victoria Dock. On this occasion about 300 of those employed were entertained with good cheer and friendly feeling by Mr. Murray, at his temporary office on the works.

CONVERSION OF AREAS.

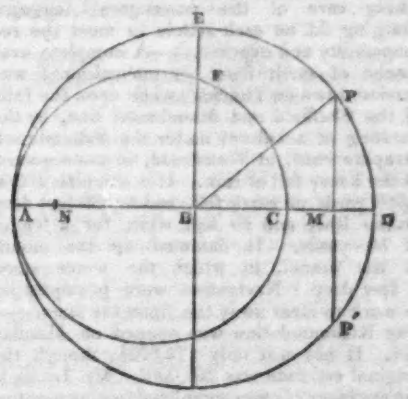
SOLUTION OF "B. H.'S" PROBLEM.

IF the inclosed solution of problem, which appeared in page 331, should be welcome, I beg you will make use of it.

The proposer of the problem does not seem aware that the solution does not depend upon the lines EF, CD. J. W. B.

Bisect CD in M. Through M draw PMP′ at right angles to AD. Then PP′ shall be the diameter of the circle required.

Join BP. Take AN = CM or MD. Then because AN = CM, adding to each NC, we have AC = NM: *i.e.* NM = diameter of small



circle AFC. And because AB = BD and AN = MD ∴ remainder BN = remainder BM: *i.e.* B is the centre of the circle described on MN as a diameter, and BM = radius of the same circle.

Now ∵ circles are to one another as the squares of their radii; we have

Area of ⊙ AED : Area of ⊙ of which PP′ is diameter :: $BP^2 : MP^2$; and

Area of ⊙ AFC : area of ⊙ of which PP′ is diameter :: $BM^2 : MP^2$.

∴ (Eucl. V. 24, 1.) The excess of area of ⊙ AED over area of ⊙ AFC : area of ⊙ of which PP′ is diameter :: the excess of BP^2 over $BM^2 : MP^2$; *i.e.* Crescent-shaped space, AEFDCA : area of ⊙ of which PP′ is diameter :: $BP^2 - MB^2 : MP^2$ (Eucl. I., 47) :: $MP^2 : MP^2$ :: 1 : 1.

THE REGISTRAR GENERAL ON HEALTH.—The inadequate supplies of water by companies, the imperfect sewerage in towns, the open drains and ditches, and the general neglect of cleanliness, leave every where great quantities of organic matter to decay and putrify in the midst of crowded populations. In such circumstances, the mortality, like putrifaction, is always increased when the temperature is high; and epidemics of diarrhœa, dysentery, and cholera prevail. Many thousands of the people of England were carried off in the last quarter by these diseases, and others of the zymotic class.

BRITISH ARCHÆOLOGICAL ASSOCIATION.—The annual congress will be held in Gloucester, commencing on Monday next, and closing on the following Saturday. The arrangements promise a very interesting week: we shall give full particulars.

RAILWAY JOTTINGS.

Our new Chancellor of the Exchequer it is said has been consulting several of the more eminent of the Liverpool brokers on the subject of railway legislation.——The "Land and Companies Clauses Consolidation" bill, now before the Commons, is held by some of the more practical men in the city as a desirable remedy for the deficiencies of former proceedings on the part of the legislature relative to the winding up of railway companies.——The customs have agreed to take the average of colonial cargoes of railway sleepers, by piling sixty pieces of each description, and taking the length, height, and breadth, to the quarter of a foot.——A new first-class passenger carriage on a somewhat novel principle has been lately built. It runs on eight wheels, and is expected to obviate the jerking which arises from inequalities on either side of the rail, and to prevent the wheels from getting over them in rapid curves, the plan involving what is equivalent to a hinge in the middle of the frame-work, so that the whole is easily turned as a lorry or omnibus. The chief novelty, however, consists in the mode of reversing so long a carriage on the ordinary turn-tables.——The Great Western Company, if they obtain the extension of the broad gauge to Birmingham, intend, it is said, to abandon their Oxford and Rugby Line, at the point where the Oxford and Birmingham Junction leaves that line. The company also promises, when the Oxford and Birmingham Line is opened to run trains between London and Birmingham in three hours and three quarters instead of four hours and thirty-five minutes, as by the London and Birmingham at present.——The Directors of the Great Western have adopted at Bath the system of taking care of the passengers' luggage, charging 2d. on each article to meet the responsibility and expense.——A complete avalanche of earth from an embankment was carried down on Thursday week upon the rails of the Sheffield and Manchester line, by the bursting of a culvert under the Saltersbrook turnpike road, at Woodhead, in consequence of the heavy fall of rain. It is calculated that 3,000 yards of earth fell, and lay 30 feet deep on the line, and 60 feet wide, for a length of 50 yards. It dammed up the mouth of the tunnel, in which the water stood 3 feet deep. Navigators were promptly set to work to clear away the immense mass.——The Richmond line was opened on Monday last. It has cost only 170,000*l.*, though the original estimate was 260,000*l.* Mr. Locke is the engineer. It was completed in nine months, or at the rate of a mile a month. The fares are to be 8d., 10d., and 1s.——A curious line of railway is said to have been lately opened between Paris and Sceaux — the celebrated park *bal champêtre* village. It is 7 miles long, and was invented by M. Aioux, the inventor of the *trains articulés*, or jointed. It consists entirely of curves, some of them of only 100 feet radius! The termini are circles, where, as in the sharp turns, the first and last carriages come right opposite one another. The axles, instead of being fixed parallel, are free to turn on a pivot, and are made to place themselves in the radius of the curve by guide-wheels or rollers running obliquely against the inside of the rail. The carriages are connected by iron bars. Near Sceaux, the road is a zig-zag, and the train "tacks" up the hill on a rise of one in ninety! How indescribably characteristic of the Parisians this zig-zag flighty curiosity somehow is! The association with the *bals champêtre*, too, how thoroughly French! — the dancing whirl of the rail with the whirl of the waltz, whither it so appropriately leads!

Church of St. Mary-le-Strand.—The steeple of this church, one of Gibbs', has been scraped and partially repaired, the joints stopped, &c., at an expense of 47*l.* 10s., exclusive of the scaffolding. The latter was efficiently erected by Masey and Son, of Clare-market, and cost 30*l.* We mention the repair chiefly for the latter fact, which is a useful *datum*. The weathercock had not worked for thirty years. It is to be regretted, that the parish do not appear to be willing to repair the body of the church, which, externally, stands much in need of it.

Miscellanea.

Vitrified Walls.—At a recent meeting of the British Archæological Association, Mr. T. Pryer read a paper on the ancient vitrified forts in Scotland, particularly that upon Craig Phadric, Aberdeenshire. This fort occupies the entire summit of the hill, which has an elevation of 1,150 feet. In shape it is a parallelogram, being about 250 feet by 100; the walls are traceable, though covered with moss and heather; no cement has been used; the stones are unwrought, and connected together by a kind of substance in some places resembling lava, but in general more like the scoriæ of a foundry; the whole of the stones had been apparently softened and partially melted by fire, and it was evident that the entire structure had been subjected to intense heat. At the conclusion of the paper, Mr. Saull observed that the builders of these ancient forts, which he considered dated a little anterior to the Roman Conquest, had probably used wood and kelp for vitrifying the walls, and he explained the manner in which he considered it had been effected. Mr. J. S. Buckingham fully agreed in the opinions given by Mr. Saull, and stated the ancient buildings at Babylon appeared analogous to the vitrified forts. In the Birs Nimrod, or temple of Belus, there was to be noticed a mass of brick masonry 170 feet high, the exterior and interior surfaces of which had been calcined. Various theories had been advanced to account for the vitrification; some thought lightning to have been the agent; others sought a cause in the custom of the Persian fire-worshippers, of maintaining perpetual fire; but he considered that advanced by Mr. Saull as the more rational. Mr. Buckingham quoted the sacred Scriptures as throwing a light upon the mode of burning the walls; the expression, "and they took bricks and burnt them thoroughly," is still more applicable in the original text, which might be translated, "and they took bricks and burnt them to a burning."

More Foreign Competition with British Manufactures.—We have already had occasion to notice the somewhat startling announcement, that the Sheffield cutlers have been bearded by foreign ones even in their own workshops; and we now observe, that a somewhat similar invasion of the territories of the manufactures of glass is threatened. "Serious apprehensions are entertained by the glass manufacturers in this district," says the *Birmingham Gazette*, "that a certain portion of their trade must give way to foreign competition. Several Belgian travellers have lately offered for sale wine-glasses and tumblers at the merchants warehouses in this town, at from 25 to 35 per cent. cheaper than the same description of articles can be produced in this country. The same disadvantage to a still greater extent is apprehended with respect to ornamental-glass. In the manufacture of articles requiring a great amount of engraving and cutting, the disadvantages against the British manufacture are said to be very decided." It is some consolation, in this lamentable and extraordinary dilemma, that, "in the manufacture of plate-glass, there is little to be feared."

Ancient Timber Edifices of England.—Mr. John Clayton, A.I.B.A., announces a work on this subject containing twenty-six lithographic plates, comprising views and details alternately arranged. The work will comprehend a series of specimens of ancient timber work, illustrative of the use of this material in the erection of buildings, for a variety of public and domestic purposes; the subjects illustrated, with the exception of the Town Hall, Hereford, which is restored from authority, exist in a perfect condition, and are chiefly collected from Herefordshire, Shropshire, and Cheshire. They comprise the principal of the remarkable edifices, designed by John Abel, and erected about the date 1600. John Abel was created one of his Majesty's carpenters in the reign of Charles I., and acquired great celebrity in the west of England.

Submarine Telegraph.—Recent experiments in Portsmouth harbour have established the fact beyond doubt, that information may be transmitted through the water with the same facility as it is along the lines already formed on land. In a score of years England will be in *daily* communication with all her foreign possessions.

American Copper Region.—"The stories which reach us from the copper region on Lake Superior," says the *Toronto Patriot*, "almost daily startle our credulity, and were it not that we have ourselves seen some of these large masses of native copper, we should find it difficult to credit them, however well authenticated." One mass, 13 feet in length, is instanced, and the Outanagon copper rock, weighing about two tons, is alluded to as "one of the wonders of the world;" but between that mass and one recently met with, "the difference is as great as between a mustard seed shot and a cannon-ball." The proprietors "have 'drifted' longitudinally about 90 feet without finding its length. They have sunk down about 4 feet in places, without finding its depth. Its average thickness is about 18 inches. And the mass thus far uncovered, is estimated at about 90 tons in weight, and its commercial value when raised and smelted, will exceed 25,000 dollars." It is to be sawn into blocks by a steam-engine.

Daubing the Interior of Churches.—A correspondent of the *Stamford Mercury* says, "The interior of Louth Parish Church has undergone a 'cleaning-up this May-day time,' with sundry buckets of white and colour wash, after the fashion of kitchens and stables; and, as far as such applications could make it so, looks clean enough; but what could induce the churchwardens to cover over with such, or any other wash, the fine stone pillars, arches, buttresses, and mullions, and thus destroy their architectural effect, we cannot divine. They might as well (nay, with greater propriety) have whitewashed their marble chimney-pieces and mahogany chairs and tables in their own houses; for in that case no one would have a right to complain; but here, where the parish money is used to destroy the beauty of the church, and to hide from view such parts as may require substantial repair, it is right to call the attention of the parishioners to such doings."

Violent Earthquake at Smyrna.—Two minarets have been shaken down, and a vast number of houses shattered, by a shock which occurred on the 25th ult., and the casualties would have even far exceeded the reality, but for the very prudent practice here, as in some other localities subject to earthquakes, of building dwelling houses of wood, which of course is not so liable to be toppled, or even rent, especially as no large timbers or other heavy materials are used in their construction. Iron would be even preferable to wood in such localities, and would remove the risk from fire, which it is well known frequently consummates the destruction which the earthquake originates.

Operative Carpenters and Joiners.—We have received a copy of a circular issued by a committee of workmen, appointed to take steps for the establishment of a trade society on an improved footing, "and at the same time afford the members opportunities of associating together, apart from the excitements of the public-house, for the transaction of business, the cultivation of their faculties, and the improvement of their condition." Any scheme with such an end in view, to be carried out by legitimate means, would seem to be entitled to support. The first inquiry of course is, what are the means proposed? Care must be taken to avoid arraying class against class.

The Birmingham Cemetery.—The design adopted for the Church of England Cemetery, at Birmingham, is that of Mr. J. Hamilton, of Gloucester. The chapel will be in the decorated style of Gothic architecture, with a tower and spire. The ornamented parts of the building will be of white stone and the plain of Wesley Castle red stone. The catacombs will be in two rows, of an elliptical form.

Carpenters' Tool-baskets from Faro.—The Faro baskets, which are sometimes also used for carrying fruit, are made of a soft and pliable description of rush, with a strong, thick, matted handle. They are charged with a variable amount of customs duty on importation, valued occasionally at 30s. for the largest and 15s. for the smallest size per bundle of five dozen each.

Wesleyan Church in Paris.—The old church of St. Vincent de Paul, in the street Montholon, has been taken by the Wesleyans, and fitted up to hold 800 persons. Mr. W. Corderoy was the architect employed.

LARGE PAVILION.—We omitted to mention last week that the pavilion erected for the recent dinner of the Agricultural Society, in Newcastle-on-Tyne, was 140 feet long, by 84 feet deep, and capable of accommodating about 1,500 persons at dinner. The ventilation was effected by leaves formed of thin canvas stretched over a light framework, which folded upwards to admit the air, and when hanging down they offered no obstruction to the light. The roof of the building was supported by iron-work, and covered with floor-cloth, being completely impervious to the weather. There were two large stained-glass windows behind the chairman and vice-chairman. The floor was boarded throughout. This pavilion was erected by Mr. Manning, of London, at a contract of 3,000*l.* Most of the materials had been used at former meetings of the society.

PARGET FOR CHIMNEYS.—A country paper says, instead of plastering the inside of chimneys in the usual way, take mortar made with one peck of salt to each bushel of lime, adding as much sand and loam as will render it fit to work, and then lay on a thick coat. If the chimney has no offsets for the soot to lodge on, it will continue perfectly clean, and free from all danger of taking fire. A trial of three years, it is said, warrants this assertion.

SCULPTURE COMPETITION.—"A Dancing Girl Reposing," by Mr. W. Calder Marshall, A.R.A., has obtained the premium of 500*l.* offered by the Art-Union of London for a figure in marble.

NOTICES OF CONTRACTS.

[We are compelled, by the interference of the Stamp Office, to omit the names of the parties to whom tenders, &c. are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent Garden.]

For the repewing, restoring, and improving the parish church of Ifield.

For making a million of bricks in the country.

For taking down and rebuilding the walls, iron railing, and gates, and painting the ironwork of the church of St. Leonard's, Shoreditch.

For the works necessary in extending sewers in the hamlet of Radcliff.

For the erection of a rectory-house and offices near Eye, Suffolk.

For the making of part of the General Terminus and Glasgow Harbour Railway, extending from the Polloc and Govan Railway to near the margin of the river Clyde, with a branch to the Glasgow and Paisley Joint Railway; being a length in all of one mile four furlongs, or thereby. Also, besides the cutting, embanking, and usual railway formation.

For the deviation of a part of the Glasgow and Paisley Canal. Also,

For the building of a tunnel under the Glasgow and Paisley Canal. Also,

For the building of a bridge under the Glasgow and Paisley turnpike-road. Also,

For the building of a bridge under the Glasgow and Paisley Joint Railway. Also,

For the erection of two occupation-road bridges, &c., in connection with the General Terminus and Glasgow Harbour Railway.

For the whole of the work on that part of the Aberdeen Railway from Lawrencekirk to the North Esk river, being a length of about 4 miles.

For the execution of the branch railway on the Glasgow, Paisley, Kilmarnock, and Ayr line, between Bushby and Irvine stations, a length of about 5¼ miles.

For the formation of a branch railway leading from a point on the Wilsontown, Morningside, and Coltness Railway, in the lands of Blackhall, to Shott's Iron Works, a length of 2,291 yards or thereby, with relative bridges and other works (promptly).

For the erection of a parsonage-house on the Upper Dicker Common, near Horsebridge.—Builders requested to send in plans and estimates, including the usual out-buildings; but no charge will be allowed for plans or estimates, or for any other expenses; and all communications must be pre-paid.

For the erection of a rod rolling mill at Middlewood, works, Sheffield (promptly).

For works to be performed in repairs, alterations, and additions to the parish church of Aldborough, near Aylsham, Norfolk.

For painting the iron palisading round Norwich Castle (promptly).

For the erection of six attached cottages for the Itchen Bridge Company, to adjoin their toll-house.

For the erection of the proposed royal arch, at the Queen's Quay, Dundee.

For the disposal of an ironmonger's business in Edinburgh.

For lighting, cleansing, and upholding the public gas lamps of the borough of Gateshead for the ensuing season.

For the leading of the battery at Willington.

For taking down and re-constructing Looe-bridge, Cornwall.

For the disposal of a wainscot altar-screen at Castle Hedingham.

For the opening, cleansing, and making navigable the creek or inlet leading from the River Blyth to the salt works at Southwold, a length of about 1,050 yards.

For the purchase of about 210 tons of fish-bellied rails at Sheffield or Masborough.

For the letting of Woodfield brick yard, near Aldridge.

For the execution of the town drainage of Walsall.

For the rebuilding of the parish church of Runcorn.

For the re-erection of the George Hotel with mews and premises at Rugby.

For the disposal of an old established ironmongers' business, near the market place, Hull.

For the disposal of a builders', upholsterers', cabinet makers, and auctioneers business, established for ten years in a large market town.

For the letting of the Eagle Iron Foundry, at Kidderminster.

For the disposal of a large quantity of contractors implements.

For the mason work required for the water-works at Brampton.

For the mason-work required in the erection of a union workhouse, with infirmary, receiving-wards, register-offices, work-sheds, and other buildings, at Bridlington.

For the carpenter's work required in the erection of the union workhouse and other buildings at Bridlington.

For the iron and other works required in the erection of the Bridlington union workhouse, &c.

For the erection and construction of a gas-holder, 80 feet diameter, with columns, girders, &c., for the Commercial Gas Light and Coke Company, at Stepney.

For the disposal of an oil, colour, and varnish business, in the centre of the metropolis.

For a supply of iron for the East-India Company.

For a supply of paint for the East-India Company.

For the disposal of a long established ironmonger's business, in a good market town 60 miles from London.

For levelling the ground and making the road and drains of the proposed Church of England cemetery, at Warstone, Birmingham (promptly).

For iron pipes required for the Brampton Water Works.

For tanks required for the Brampton Water Works.

For the rebuilding of a Wesleyan Methodist Chapel at Neath.

For the making and erecting of a reservoir, well, shaft, tunnel, and other works for the Gravesend and Milton Water Works.

For the disposal of a nearly new 3-horse power high-pressure engine and boiler, at Birmingham.

For the repair of the footways at Ipswich, for one year.

For the letting of a small brickfield, of about two acres, near Stoneferry, Hull.

For the erection of a wall round the newly-consecrated ground, in the parish of St. Gregory, at Sudbury.

For 5,000 tons of permanent rails of the double-headed pattern, weight 75lbs. per yard, for the London and Brighton Railway Company.

For the construction of a piled jetty and timber gangways at Bow creek wharf.

For the dredging in front of the jetty at Bow-creek, for ships' berths.

For the erection of a workhouse for the Hungerford union, at Hungerford, Berks.

For rebuilding the church of Kilcully, county of Cork.

For the erection of a fever hospital at the Lowtherstown union workhouse, Ireland.

For the performance of repairs and outside painting to buildings, &c., at the Deptford Victualling Yard. Labour alone (promptly).

For the erection of an additional ward of two storys high to the fever hospital of the New Ross Union Workhouse (Wexford, Ireland).

For lighting the City of Bristol with gas for seven years (re-advertisement).

For the works on the Newport extension of the Edinburgh and Northern railway, in two divisions.

For the execution of works on the Hawick branch of the North British Railway, in four contracts.

For the ironwork, &c., of the high level bridge on the Newcastle and Berwick line, at Newcastle.

COMPETITIONS.

Designs are wanted for a new workhouse for the Calne Union, without payment; but the architect whose design may be approved of will be employed to prepare the working plans and specifications.—[Whether or not these also are to be done without payment is uncertain; no promise of payment being made even for them.]

Plans are wanted for widening, altering, repairing, and improving the Cornwall County Bridge at Wadebridge.

Plans are also wanted for the improvement of the eastern approach to the Wadebridge Cornwall County Bridge.

Plans are wanted for a new church, to be built near Pennant, in the parish of Bettws, Montgomeryshire.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At the Royal Oak Inn, Eccleshall: a number of oak trees and poles.

At Leicester: 50 lots of African, Spanish, Honduras, and Cuba mahogany.

At the Southampton Docks: a small cargo of Honduras, Cuba, and St. Domingo mahogany.

At the White Swan Cross House, Southampton: a cargo of spruce and pine deals, battens, batten ends, black birch, red and yellow pine and lathwood.

At Snitterfield, Warwickshire: 2,000 oak timber trees and poles, with several lots of elm and ash timber trees, and 60 cords oak wood.

At Ossington Woods: a large quantity of oak and ash poles and posts, oak, ash, elm, beech, chesnut, fir, and other timber.

At the Albion Wharf, Blackfriars-bridge: a stock of artificial stone and Roman cement castings in architectural ornaments, moulds, vases, &c.

At 35, St. Martins-lane, Charing-cross, an assemblage of scientific instruments from the Adelaide Gallery, comprising a 3½ horse-power steam-engine and boiler, with Perkins's coiled generator; large gasometer, &c.

At 21, corner of New-road, Gower-street, a stock of finely sculptured and polished Italian and French marble chimney-pieces, &c.

TO CORRESPONDENTS.

Received.—"E. B. L.," "Professor D.," "T. I. M.," "S.," "M.," "W. S.," "J. D. P.," "Traveller," "T. L. D.," "J. A. F."

"*Carpenter.*" Write to the works, "Limehouse."

"*W. W.*" We know nothing of the party named.

*** Correspondents must excuse us till next week.

ADVERTISEMENTS.

THE GUARDIAN MUTUAL INVESTMENT and ACCUMULATING FUND SOCIETY, Exeter Hall, No. 3, Committee-Room.—The next Meeting of this Society will take place here on Tuesday Evening, the 11th of August, at Seven o'clock, for the enrolment of Members, receipt of Subscriptions, and sale of Shares.—This Society has now been established fourteen months, and a reference to the first year's balance-sheet will prove its stability, and show how satisfactorily it has progressed.

Money immediately advanced on Freehold, Copyhold, or Leasehold Property, on most advantageous terms both to the borrowing and investing Members.—Prospectuses, and every information, may be obtained of the Secretary, Mr. J. F. HOOPER, No. 4, Great Russell-street, Covent-Garden, on Monday and Thursday Evenings, from 8 to 7 o'clock.

TO CARPENTERS AND BUILDERS.

W. WARD, Glazier, 125, Union-street, Borough, is enabled to Glass New Sashes with Crown Glass, at 4d. per foot up to one foot; at 4½ per foot up to two feet.—FOR CASH ONLY.

ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge.—Wyatt, Parker, and Co., Agents. The above tiles have lately been considerably reduced in price.

N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

CHEAP PAN FOR WATER CLOSETS,
With Trap, in one Piece.

DOULTON and WATTS, Lambeth Pottery, London, Manufacturers of the above in superior glazed STONE WARE, price 7s. 6d. each. They are of the most durable ware, and are recommended in preference to iron on account of their cleanliness and cheapness. If preferred, they can be had in two parts, the pan at 4s. 6d., and the Trap at 3s. 6d. N.B. Manufacturers of RAIN WATER PIPING for houses.

COLOURED PHOTOGRAPHIC PORTRAITS.

"We have recently inspected a number of portraits taken by Mr. BEARD, which are quite beautiful. The colour is uniform, and so transparent as not to affect the likeness in any degree."—Builder.

Mr. BEARD'S establishments are 85, King William-street, City (where application for license should be made), 34, Parliament-street, Westminster, and the Royal Polytechnic Institution, Regent-street.

By Her Majesty's Royal Letters Patent

BAILLIE'S
PATENT ROUNDED RIM LOCKS.
WITH SECRET AND SECURE FIXINGS.

THIS CHEAP and USEFUL ARTICLE, obviating the unsightly appearance and insecurity of the common rim lock, can be obtained of any respectable ironmonger in town or country, or from the sole manufacturer, Mr. EDWARD WRIGHT, Wolverhampton.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 10s. per gallon.

LOUIS QUATORZE METALLIC CHIMNEY PIECES, of splendid design, at less than one-fourth the usual cost of Marble, and superior in use, as not liable to injury; they retain their original polish much longer, and can at any time be restored at a trifling cost.

These CHIMNEY PIECES are specially adapted for public rooms, such as ASSEMBLY ROOMS, DRAWING and DINING ROOMS of first-rate HOTELS, or RAILWAY STATIONS; in fact, wherever elegance in style, economy in cost, or durability in use, are of any importance, they will be found most advantageous, and are so exquisitely finished as to deceive the best judges.

May be had either in SIENNA, JASPER, BLACK GRIOTE, BLACK AND GOLD, or any other coloured Marble that may be required.

The openings are 4 feet 2 in. wide, 3 feet 6 in. high, inside, with a shelf, 12 in. wide, and 6 feet 1 in. long.

A tracing will be forwarded, with particulars, upon application to PIERCE and KOLLE, STOVE GRATE MANUFACTURERS, 5, Jermyn-street, Regent-street.

ORNAMENTAL IRON STAIRCASE.

TO BE DISPOSED OF at a great sacrifice, having been recently made for a GENTLEMAN'S MANSION, and not now required, consisting of twenty-nine steps fitted with ornamental cast-iron heads, and risers full three-eighths in thickness, perforated with quatrefoils in panels, moulded nosings, and open bracket ends, framed on wrought iron carriages of 3 inches by 1 inch.

The plan is formed of twenty-two flyers framed in one piece, three winders in quarter space, turning to the left, and four flyers above, measuring 15 feet in height (but being formed in two parts it may be lowered) and 3 feet wide, with 9 inch tread of steps, and risers of 9 inches.

This staircase is well adapted for any situation WHERE ELEGANCE, SPACE, and LIGHT, are desirable, as both ends are framed to show, and may be put up in a central situation, and suitable in a showroom, warehouse, or any out-door purpose, such as for descending from a drawing room to pleasure-grounds, &c. &c.

Apply to PIERCE and KOLLE, Stove Grate Manufacturers, 5, Jermyn-street, Regent-street.

CHAS. WM. WATERLOW,

Manufacturer of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square. Well-seasoned materials, superior workmanship, lowest prices. Upwards of 400 Doors and a large variety of Sashes and Frames always on Sale. Glazed goods securely packed for the country. Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged on building.

HERRING'S PATENT SAFETY WINDOW.—All danger from cleaning or repairing windows at an end. No housekeeper should be ignorant of this invaluable invention. Simple, cheap, and effectual; will repay the cost every two years; add 5 to 10 per cent. to the value of houses. No one should buy or rent one without it. Now in full operation in most parts of the kingdom. Builders and the public can inspect its real merits, and have licenses, at the Patent Steam Bed-feather Factory, 14, Kingsgate-street, London.—JOHNSON and PASK, Makers.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 9d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

STAINED GLASS, Manufactured in the style of the middle ages, for church windows and Gothic edifices, by JAMES ALEX. FORREST, 19, Old Haymarket, Liverpool. Designs given free, where the work is executed.

PAINTED GLASS.

THE Subscribers, who have been appointed to furnish the PAINTED GLASS for the WINDOWS of the HOUSE OF LORDS, are ready to prepare Designs adapted to every style of Ecclesiastical or Domestic Architecture, and to execute Work, to any extent, within the shortest possible period.
BALLANTINE and ALLAN, 42, George-street, Edinburgh.

STAINED, PAINTED, AND EMBOSSED GLASS.

GEORGE HOADLEY begs to inform his Friends and the Public, that he can supply ornamental embossed Glass from 1s. 6d. per foot super., and borders from 9d. per foot run. Embossed borders in the most splendid colours on view. Having been established 25 years, can give references to numerous works.
6, St. James's-place, Hampstead-road.—Terms, Cash only.

BRITISH and FOREIGN SHEET GLASS for Horticultural purposes, &c., may be had at JAMES BROMLEY'S, 315, Oxford-street, London, at the following reduced prices:—
In crates, containing about 200 feet, of coarse 13 oz., at 4½d. per foot, or fourth quality, 5d. per foot; ditto, 16 oz. coarse, 5½d.; ditto, fourth quality, 6d.; or cut to any size not exceeding 40 inches long by 10 inches wide at ½d. per foot extra. Also Microscopical Glass, French Shades, Plate and Crown Window Glass.—A discount to the trade.

PAINTED AND STAINED GLASS.

R. HOWE begs to inform his Friends and the Public that he can supply Painted and Stained Glass, after the ancient styles, at less than one-half the price generally charged.

Windows filled with the Apostles and other figures, per foot super	12s.
With coats of arms, badges, &c.	12s.
With painted quarrie, Scripture texts, mottoes, &c.	5s.

43, South Molton-street, Oxford-street, London.

TO THE PLATE GLASS TRADE.

THE BIRMINGHAM PLATE AND CROWN GLASS COMPANY, "Registered," beg to inform the Trade and Public, that the extension of their Works at Smethwick, near Birmingham, being now completed, their Warehouse, 141, Fleet-street, London, is now open for the Sale of their Crystal Plate Glass, which will be found to stand unrivalled by that of any other manufactory. They are also in a position to supply Rough Plate of any substance for Skylights or Floorings on the shortest notice.—Orders addressed to B. MOSS, Company's Warehouse, 141, Fleet-street, London, will be promptly attended to.

WINDOW GLASS, LEAD, VARNISH, and COLOUR MANUFACTORY.—Crown Window Glass, in squares under two feet, 4½d. per foot; glazing, 5d. per foot; sheet glass, 4d. per foot; best white lead, 26s.; seconds, 24s.; thirds, 22s. per cwt.; linseed oil, 2s. 2d.; boiled oil, 2s. 6d.; turpentine, 3s. 9d.; fine oak varnish, 10s.; carriage, 12s.; copal, 14s.; body copal, 20s.; gold size, 10s.; paper varnish, 10s.; linseed oil putty, 7s. 6d. per cwt. per firkin; patent dryers, 42s.; black paint, 28s.; lead colour, 24s.; Oxford ochre, 42s. per cwt.; best pan water-closet, 34s. complete; ½-brass cocks, 2s. 6d. each. Milled sheet lead, patent pipe, beer-machines, tapping-cocks, and brushes and colour of every description. Thomas Millington being the manufacturer, can supply a much better article than most other houses. Address, THOMAS MILLINGTON, 87, Bishopsgate-street Without, London.—Established upwards of 90 years.

SASHES primed, glazed, and sent to any part of London at 6d. per foot.

BUILDERS, PAINTERS, GLAZIERS, and others, supplied with every article used in the trade upon the best wholesale terms.
FOREIGN SHEET 5d. per foot.
BRITISH CROWN 5d. per foot.
Coloured and Ornamental Glass, Flatted Crown, and Sheet Plate, for Shop fronts, Show-cases, &c. The largest stock of Cheap Glass in London for HORTICULTURAL PURPOSES.
Dry and Good Colours of the best quality; Brushes Dryers, and every article used in the Trade Warranted.
VARNISHES and GENUINE WHITE LEAD; MILLED LEAD IN SHEETS 22s. per cwt.; Lead Pipe 23s. per cwt. Pumps, Water-closets, Basins, Brass-work, and all materials used by Plumbers.
For complete lists priced.—Address to R. COGAN, WINDOW GLASS, LEAD, and COLOUR WAREHOUSE, 5, Prince-street, Leicester-square, London.

CLARENDON PANTECHNICON. — Warehouses for furniture and other articles, situate in North Row, North Audley-street, Grosvenor-square. The proprietor, Mr. JAMES PONSFORD, begs most respectfully to inform the nobility, gentry, and public, that he has those exceedingly spacious and convenient ware and store-rooms for depositing of furniture and other valuable property, and that the greatest care and attention shall be paid both to the receiving and delivery of articles, as well as to their perfect safety while in the warerooms. The proprietor also holds himself responsible for any damage which may occur while on his premises, and the moderate terms upon which he offers the convenience, is considerably less than is charged by similar establishments in London.

PAVING, 2s. 9d. PER SQUARE YARD Basements, Foot walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen at 27s. 6d. per ton.

TO ARCHITECTS.

IN consequence of many complaints having been made to the Company, by Architects, of a spurious material having been used in the execution of Works where the SEYSSEL ASPHALTE had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorized CERTIFICATES to be granted to Builders where the

SEYSSEL ASPHALTE

has been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte, Claridge's Patent," and not merely "Asphalte," or "Bitumen," as in many cases where these terms have been used, gas-tar and other worthless and offensive compositions have been introduced. I. FARRELL, Secretary.
Stangate, near Westminster Bridge, Jan., 1845. Seyssel Asphalte Company.

Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

*** In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. CURTIS, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly mentioned, that "Claridge's Asphalte" was to be used.

Also in the case of a work at Lewisham executed by Messrs. ROBERT and DANIEL YOUNG, of 16, Crown-row, Walworth-road, where Seyssel Asphalte was specified for, a spurious article was nevertheless laid down by them.

SIR WILLIAM BURNETT'S PATENT for the Preservation of Timber, Canvas, Cordage, Cotton, Woollen, &c., from Decay.

TESTIMONIALS.

From THOMAS GRAHAM, Esq., M.A., F.R.S., L. and E., Professor of Chemistry, University College, London.

"After making several experiments on wood prepared by the solution of chloride of zinc for the purpose of preservation, and given the subject my best consideration, I have come to the following conclusions.

"The wood appears to be fully and deeply penetrated by the metallic salt; I have found it in the centre of a large prepared paving block.

"The salt, although very soluble, does not leave the wood easily when exposed to the weather, or buried in dry or damp earth. It does not come to the surface of the wood by efflorescence, like the crystallizable salts. I have no doubt, indeed, that the greater part of the salts will remain in the wood for years, when employed for railway sleepers or such purposes. This may be of material consequence when the wood is exposed to the attacks of insects, such as the white ant in India, which I believe would be repelled by the poisonous metallic salt.

"After being long macerated in cold water, or even boiled in water, thin chips of the prepared wood retain a sensible quantity of the oxide of zinc; which I confirmed by Mr. Toplis's test, and observing that the wood can be permanently dyed from being charged with a metallic mordant.

"I have no doubt, from repeated observations made during several years, of the valuable preservative qualities of the solution of chloride of zinc, as applied in Sir. W. Burnett's process; and would refer its beneficial action chiefly to the small quantity of the metallic salt which is permanently retained by the ligneous fibre in all circumstances of exposure. The oxide of zinc appears to alter and harden the FIBRE of wood, and destroy the solubility, and prevent the tendency to decomposition of the azotised principles it contains, by entering into chemical combination with them.

(Signed) "THOMAS GRAHAM."
"University College, 25th October, 1845.

From Professors BRANDE and COOPER.

"London, 4th November, 1845.

"SIR,—We have this day again examined the specimens of canvas and wood prepared according to the specification of your patent, and which, in the month of April, 1844, we placed in a damp cellar, where they have remained up to this date.

"We are now enabled satisfactorily to corroborate the favourable opinion expressed in our former report. The canvas remains amply protected from all fungous vegetation and rottenness, while a corresponding sample of the same piece, which had not been prepared by immersion in the solution of chloride of zinc, is entirely decayed, being mouldy, rotten, black, and in places resembles timber.

"We have also lately compared the strength of a fibre of a piece of canvas which we prepared according to your specification, in October, 1844, with that of the fibre of the same canvas, unprepared, and find that it has in that respect sustained no injury. We are therefore of opinion that your process will not, after any lapse of time, tend to deteriorate the strength of the fibres of the substances in question.

"In regard to the several samples of different species of wood above adverted to, each of which was cut into two, one half being imbued according to the directions of your specification with the dilute solution of chloride of zinc, while the other half was left in its original condition, we have also to make a favourable report, and to repeat our opinion of the efficacy of your process as a preventive of dry rot, and similar sources of decay; the unprepared specimens are manifesting symptoms of decay and mildew, while those which have been protected by your preparation are clean and sound.—(Signed) "WILLIAM THOMAS BRANDE,
"JOHN THOMAS COOPER."

"To Sir William Burnett, K.C.H., F.R.S., &c. &c."

Testimonials from numerous other parties may be obtained on application, personally or by letter, to the Secretary, and Specimens may be seen at the Office, 53, King William-street, London-bridge.

PREPARED FLOORING BOARDS.

AT REDUCED PRICES.

ALWAYS ON SALE, a LARGE ASSORTMENT of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¾ inch to 1¼ inch thick. Rough Boarding for Flats.
TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.
Apply at W. CLEAVE'S Timber Yard, Smith-street, Westminster.

ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, at Old-Barge-Wharf, Upper Ground-street, Blackfriars, and at Hy. Castle's, Ship-yard, Millbank-street, Westminster, a large, very general, and well-seasoned stock of all kinds of Prepared Floor and Match Boarding, planed to a parallel breadth and thickness, fit for immediate use; also a great variety of machine-prepared mouldings, very accurately finished.
A. R., in calling the attention of builders and consumers, confidently presumes on being able to supply them on such terms as will ensure and merit their favours, &c.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weighbridge and draw-dock.—N.B.—Depot for Glass Pantiles.

MUIR'S PATENT PLANING MACHINERY.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.
Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.
N.B. Estimates given for Sawing and Planing.

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